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THE SCIENCE OF RELIGIONS.*

I. ON tracing back, according to the exigencies of method, the history of religions, we perceive that the application of dogmatic principles to the conduct of life is a fact of recent times, which characterises the last arrivals among religions—those of Mohammed, Christ, and Buddha.

In the Koran, metaphysics have scarcely any place, and are almost reduced to an affirmation of the absolute unity of God, in opposition to the Christian idea of the Father and Son. Rules of conduct, on the other hand, and moral suggestions, occur at every step, under the different forms of precept, tale, and parable. If we follow the development of Mohammedanism, both in the East and in the West, we must observe the extreme weakness of the Moslem philosophy, compared with the important part played by metaphysics among the Greeks, and the Indians of the Brahminical period. Perhaps we ought to attribute the scientific poverty of the religions founded on the Koran less to the specially moral character of the Moslem revolution than to the nature of the Semitic mind, always inferior, in point of science, to the genius of the Aryan nations. This opinion, which has been for a long time current among the learned, is confirmed more and more every day, and tends to become a point quite incontestable. It is, in fact, certain that there is scarcely any theoretical philosophy in the Semitic books which have preceded the Koran; that is to say, in the Bible, and in the other Hebrew writings.† If we had no other religions under our eyes except those which have

* "La science des religions, sa méthode et ses limites". By Émile Burnouf. *Revue des Deux Mondes*, 15th Dec. 1864.

† Renan, "Averrhoës".

been deduced from the Mosaic, we could not establish the law which displays to us religions that can take no practical character until after they have been, so to say, strangers to morality; though it is certain that the purely Aryan religions have been developed according to that law.

Buddhism* remained in India for centuries confused, as to its metaphysical part, with certain Brahminical schools. Later, when it was separated from them, that is, when it left India, and began to spread in Tibet, in Ceylon, and amongst the yellow peoples, it preserved, though with some modification, the greater part of its Brahminical symbols. On the other hand, Buddha, from the very first, presented himself to men as the founder of a moral doctrine founded on virtue and charity. When his disciples assembled in council to establish the primitive Buddhist church, the single end they proposed to attain was, not to teach men new metaphysics, but to change their morals, which were bad, to relieve the mind of the passions which debased it, and to reunite them in an universal sentiment of love. Hence sprung that proselytism, that abnegation without measure, which turned its apostles into civilisers of barbarous peoples, like those of Tibet and the trans-Gangetic peninsula. These peoples have remained very poor metaphysicians, but their manners have been softened; and they may date from Buddhism the commencement of their civilisation. Hence, also, that spirit of religious association which has procured so great an empire in the East for Buddhist churches; which has made *preaching* one of the first duties of the priest; made confession an ordinary practice; and which, urging many men to aim at a morality which is almost impossible, has peopled with convents a whole section of Asia, and shows us at this day populous cities entirely composed of monasteries.

Brahminism is far from having given the same universality to the institution of morality as Buddhism. It is true, in very ancient times, we see the Brahmins who redacted the laws of Manou occupy themselves with the conduct of men; but this book, which is the code of the Brahmins, has rather for its object the fixation of the basis of the social constitution, and the political organisation of India, than the guidance of all men, without distinction of castes and races, in the path of virtue. The law of Manou does not demand much of that in the case of men of inferior condition: it is more severe for noblemen of royal caste: but it imposes moral purity and perfection on men and women of the priestly caste alone. On the other hand, metaphysics occupy an important place in the laws of Manou: that subject alone occupies almost entirely the first and last book. There is

* Eugène Bournouf, "Introd. à l'hist. du Bouddhisme Indien".

more theory in that single Sanscrit volume than in the whole Buddhist literature.

Let us go further back in the past. The Vedas precede Brahminism, and afford it a point of departure. Now, morality has no place at all in the Vedic hymns. It must, therefore, have been in the interval comprised between that period, which extends over several centuries, and the establishment of the Brahminical constitution, that the Aryas of the South-east began to deduce from their doctrines the moral consequences of which they contained the germ. Brahminism, coming afterwards, fertilised these primitive seeds, and formulated to some extent the primeval practices; but it never lost sight of the diversity of castes, aptitudes, and functions. It was only in the sixth century B.C. that the Buddhist preachings gave to practical morality that universal character which belongs to it, and made of it a law common to all mankind.

Whilst these events were taking place in the East, the ancient nations of the Aryan race, Greeks, Latins, Germans, had not yet emerged from the Vedic period, and had not undergone the same moral revolutions as the nations of India. When we endeavour at this time to distinguish the moral part of the religions which are called pagan, we are astonished at encountering a negation. It is certain that, amongst the Greeks, it was not their religious instruction which provided their men with a rule of life, and gave them a knowledge of virtue, but it was their philosophers. The lives of these, as we learn them from Diogenes Laertius, prove that a notable part of the Greek philosophy, especially the morality, came from the East, where the learned had gone to search for it. As to religion, it remained a public institution, with which many individual practices were agglomerated; but its only real worth consisted in the metaphysical symbolism which served it as a foundation. When Christianity penetrated into the Western world, it was the first to preach morality in the name of religion, and to make the rule of life a portion of dogmatic teaching. The Christians made it a reproach to the Pagan religion, that it was not only a stranger to morality, but was often actually opposed to it, by holding up to men an example of vice. Christianity, therefore, was not preceded by any morality among the nations of the West: it is a useless attempt, besides being utterly unscientific, to endeavour to show that all Christian morality is to be found in the writings of the Greek or Latin philosophers before the time of Jesus Christ. There is nothing surprising in the fact, and I do not see why it should not be admitted, that the Christian moralists from the very beginning copied from the dissertations of the philosophers; but, even if this was proved, the fact would still remain, that

Christianism was a moral revolution in the West which extended itself to all men, and a revolution which proceeded by the way of religion, and not by that of philosophy. This is the real point. It is certain that, previous to Christianism, there had never been in the Western world a moral and popular education which had presented itself under a religious form, and constituted part of a creed. That religion had, therefore, in its commencement the character of a moral revolution. Later, towards the end of the second century, it commenced developing its metaphysics, which, in the discussions of the fathers and philosophers of Alexandria, attained the height to which it had been carried by the disciples of Plato and of the East; but whatever it was, and whatever may still be the importance of Christian metaphysics, the true influence of Christianism, and its true greatness, reside in the moral action it exercises.

Thus, the further back one goes in the series of ages, the more one sees among the Aryan peoples a religion distinct from morality. And when one arrives at the Vedas, or the polytheism of the Western peoples, we find in religion only its two essential elements—God and worship.

The same elimination takes place in the analogous case of the priesthood. There is no social system where the order of the priests has been consolidated into so firm an hierarchy as in the three modern religions, Mohammedanism, Christianism, and Buddhism. The Brahminical priesthood owes its duration not to its particular constitution, which is nothing, but to the *regime* of castes, of which it is, so to speak, the keystone. All Brahmins are equal, and have never since their origin recognised any one of themselves for chief. Their common origin, figured by the mouth of Brahmâ, renders them independent one of another: no one amongst them can impose an obligation or give an order to another; if any Brahmin acquires in time an authority which others have not, he owes it to his science, and not to any superiority of function. This hierarchical equality of the priests has as a consequence freedom of opinion; if there is such a thing as orthodoxy in India, it is not the authority of a chief or any council whatever of Brahmins which has determined it, but solely its conformity with the Veda, that is, the Scripture. There, consequently, room always exists for the discussion of any point of doctrine, without the possibility of being accused or condemned by any ecclesiastical power: liberty of thought is absolute in the priestly caste. If we go back beyond the Brahminical times, we find no trace of any regularly constituted priesthood, or any clergy at all: there are no more priests distinguished from the rest of men; every father of a family is priest at the moment he fulfils the sacred function, just

as he is soldier in war, and labourer in the field. It is only towards the conclusion of the Vedic period that one sees the sacerdotal function become fixed in certain families, just as the royal power and military rule become fixed in certain others; but up to that time the Aryan community had formed a conception of its gods, and practised its rites, without the intermediate action of any organised priesthood.

An attentive perusal of the *Iliad* of Homer shows us the same state of things among the Greeks. There are sacrificers attached to certain temples, who sometimes transmit to their children the sacred function; but, side by side with these, the ceremonies are most often fulfilled by the hands which hold the sword, and the prayer is pronounced by the mouth which will a moment afterwards raise the cry of war. Agamemnon is, according to circumstances, warrior, judge, or sacrificer. The sacerdotal function had not then the precision it acquired later; and if we find it so slenderly defined at the time of the Homeric poems, ought we not to suppose that at an anterior epoch it had been what we find it to be in the most ancient hymns of the Veda? The development of the priesthood had taken place by degrees in India; starting from the outline which we find in the hymns, it had taken the form of a caste in the Brahminical world; then in Buddhism the caste had given way to a powerful hierarchy, of which Siam, Ceylon, Tibet, and China present examples. In the West, to the weakness of the Grecian priesthood, which rested neither on caste nor hierarchy, succeeded abruptly the organisation of the Christian church; an organisation which we might have supposed modelled after that of the Buddhist clergy, if we did not know that it took partly as its model that sort of political religion of which the Roman emperor was the sovereign pontiff, and that it arose from the necessity for unity which the Christian society experienced whilst it was still only a secret and often persecuted community. We need not give a sketch of what all the world can see: the Christian churches, and, above them all, the Catholic church, present the sight of a priesthood of which the hierarchy went on strengthening itself from year to year, in proportion as the authority of its head was recognised as the sole source of all sacred power.

Thus, then, it appears that morality and the priesthood, which are two important parts of modern religion, appear more and more diminutive as we mount up the series of centuries. There remains at last nothing more, as essential elements of religions, than one intellectual fact, the dogma, and one exterior action, worship.

As the science of dogmas and worships can only be created by mounting up the stream of years, it takes necessarily as its point of departure the present state of religions. The first chapter of this

science is a simple exposition of that which exists, the second forms part of history. Now existing facts can evidently only find their explanation in those which have immediately preceded them; that is, unless we consider the history of humanity as an uninterrupted series of miracles, which is contrary to science. Human reason, reduced to its most simple form by modern psychology, is at bottom nothing else than the idea of God; only that idea can only arrive at being clearly understood by a course of analyses, which eliminate it by degrees from its surrounding medium. These analyses are not to be made in a day; on the contrary, they require much time; every philosopher does them for himself, according to methods well understood, but humanity takes centuries to understand the humblest of them. At every step it takes, it realises a definition of God which is more exact than those which have preceded it, but to which it could not have arrived, if the others had not come before. He who does not admit this principle, can understand nothing of the history of religions, which are subordinated, like everything here below, to the laws of succession and connexion. One discovery cannot be made, except in consequence of an anterior discovery, to which it is tied like the burning fire to the spark which has kindled it. The idea of God traverses the centuries, almost identical at bottom, but receiving in its expression perpetually fresh additions. The gods of the Vedic hymns do not answer any more to the idea we now have of God, although they were adored during a number of centuries, and though at that time the poets considered them as far superior to what had been adored before them. The material God of the first chapters of Genesis has scarcely anything in common with the God of the Christians, who is a spirit pure and perfect. Nevertheless, the most learned metaphysicians of the east recognise the Veda as the foundation of their doctrines. The Christians see in Genesis the most ancient of their sacred books, and that from which, by tradition, they have received the notion of God. It is then evident, where faith agrees with science, that the belief of to-day finds the cause of its existence in the belief of yesterday, and that, in order to construct the science of dogmas, we must trace all the steps humanity has passed; but the successive additions to religious conceptions and institutions cannot be explained, unless one has unceasingly before one's eyes the metaphysical basis which constitutes human reason.

Still, the science of religions is far from being that of philosophers. The latter move much more quickly, and seem to go headlong in comparison with the slow and uninterrupted march of sacred dogmas. Philosophical systems are the work of learned men, and do not step out of the narrow circle composed of a few men given up to medi-

tation; they only answer to a spiritual necessity, and seldom have any interest for real life. The great religious movements affect at one and the same time both that society which is literary and that which is not; they agitate the popular masses, and put in motion the sentiments which animate them. A philosophic revolution is mere child's play compared with a religious one. The science of the one cannot be that of the other.

But, inasmuch as the philosophers live in the bosom of a religious society, whether they credit its dogmas or not, the questions they consider have their echo in the medium in which they live; the solutions they propose make their way across men in proportion as the practical consequences which flow from them interest a larger number of minds. It is certain that neither Socrates, Plato, nor Aristotle exercised any immediate influence over the Greeks of their own time; but their opinions, spreading as they did by little and little, alienated men by degrees from polytheism, and prepared its fall. Many centuries were necessary for that consummation, in this way. The sum of individual ideas makes up the creed of a people: these ideas themselves are produced by complex actions, very small, and varied in a thousand ways. When the sum of new ideas surpasses that which constitutes the public faith, the equilibrium is disturbed, the latter gives place, and disappears by little and little. We must not suppose that paganism was immediately displaced by the religion of Christ. This religion had mounted the imperial throne for more than two hundred years, but sacrifices were still made to the gods in many temples of Greece; and we know ourselves, in this country, that many saints and Christian personages have only managed to supplant the ancient gods, by adopting a similar name, or by becoming the object of analogous worship. Numberless traces of ancient religions still exist in the bosom of christianism, which has never succeeded in entirely effacing them. All the facts collected in recent times, both in Germany and in France, prove that religions do not make a *tabula rasa* when they supplant one another, but that they inter-penetrate in a sort of way, like the two successive forms of an insect undergoing its metamorphosis, the new form substituting itself by degrees to the ancient, and only disentangling itself entirely in time.

These general laws, which are admitted now by all men of science, have this consequence to study: that the more modern and universal a religion is, the more numerous are the elements which it has united, and which it embraces in its bosom; in other words, its beginnings are more heterogeneous.

It is only an ignorant or a timorous mind that can imagine christianism drew its origin exclusively from Judea; for not only is the

Christian thought by no means entirely in the Bible, as some Israelites are so ready to believe, but in its course it has borrowed much from Greek and Latin notions, and afterwards from those which prevailed during the middle ages in the feudal society. If we pass from dogma to rite, we see that the greater part of its elements have an eastern source, and a symbolical application by which it approximates to the Indian worships; but if one goes back beyond Christianity and the religions of Buddha, the great religions are seen existing isolated the one from the other, or only inter-penetrating reciprocally in some of their relations. Finally, when we arrive at the most ancient of the sacred memorials that we possess, especially if we add to them those anterior facts which have been best established by comparative philology, we see the primitive religions appearing altogether independent, like the human races amongst which they flourished.

Many Christians suppose that all the religions of the earth sprung from one primordial revelation, of which they are nothing more than different degenerations. Of course, this is no article of faith, but an idea which has been spread far and wide since the time when Bossuet composed his *Histoire Universelle*, on quite insufficient materials. Since then, science has advanced; there is no man of learning now who does not consider that opinion as false; it is contradicted at one and the same time by the knowledge of the texts, which show no point of contact between the Hebrew books and the Veda, by the comparative study of languages, which distinguishes the origin of the Semitic idioms from those of the Aryan, by that of human races, which we see succeed to one another according to their order of perfection, by the philosophical impossibility of deducing the Grecian faiths, and above all those of India, from the monotheism of Genesis, and finally by one simple reflection, which domineers over all the facts, that when humanity has once discovered and possessed itself of a true principle, there is no example of its having allowed it to perish. If, then, the Christians admit the reality of a primordial religious revelation, they must bring themselves to an agreement with science, and instead of seeing in the different religions so many degenerations from divine truth, they should regard them as human attempts by which the nations step on slowly towards Christianity.

After Indian researches, and above all the study of the Veda, had put science in possession of the most ancient sacred book of the Aryan race, we have begun to understand the continuous march of religions, and have definitely renounced the idea of Bossuet; his book may still afford some edifying reading, but it has no scientific value at all. In reality, the religious world is subordinated to two tendencies, of which neither is yet worn out. One of them is Semitic; it

has its origin ascertained in the books of Moses, and its development in the Christianity of the day. The other is Aryan; its most ancient expression is in the hymns of the Veda; its latest expression is Buddhism. The immense majority of the civilised world is divided between these two doctrines. The number of Christians is estimated at two hundred and forty millions, and that of Buddhists at two hundred millions. Nevertheless, the societies in which these two dominant religions were born have not entirely given up their ancient faiths. The Jews turn but slowly to Christian ideas and Christian ceremonies. The Indian state of society has remained almost entirely Brahminical, after having expelled Buddhism from its bosom, and only preserved the trace of it in the modern sect of *Jainas*. In addition, the Semitic tendency has given origin to Mohammedanism, which, though constructed exclusively for the Arabs, has extended over a considerable portion of the ancient continent.

The two streams of religion, which have issued from the sources of Genesis and the Vedas, or, to speak more exactly, from the south-west of Asia and the Valleys of the Oxus, have been continually inter-penetrated by three philosophical systems, those of creation, emanation, and atheism. By the absolute negation, not only of God, but of every spiritual object, atheism has never exercised any influence on religious dogmas, nor mingled among them in any quantity, and has modified in nothing either the idea of God, or the worship. When it has appeared in the bosom of the ancient religions, or in modern societies, it is by its negative theory that it was separated from the public creeds; amongst the moderns, above all, by the immorality of its consequences. Amongst the ancients, an atheist was considered as a man who deceived himself; at this day, it would be considered disgraceful to be an atheist. In every way, atheism and the doctrines engendered by it, will never be able to exercise any direct action on the march of religions, nor give them any assistance. An almost universal repulsion is what they have always met with in the religious societies where they have appeared. The case is not the same with the two other philosophic systems, those of creation and pantheism. Both the one and the other have sufficed to animate the great religions, in the bosom of which they have been freely developed. Moreover, as they are by no means altogether incompatible, history shows us, on the one hand, religions founded upon the system of creation, vivified in some parts by doctrines borrowed from pantheistic systems, and on the other, entire nations, who have been brought up in a pantheistic religion, receiving from an external source doctrines derived from the idea of creation. Thus, not only successive religions have been partly incorporated with each other, but

the two great paths which they have pursued have had points of meeting, where their metaphysical systems have approached each other.

Science has proved that the original tendency of the Aryan nations is Pantheism, whilst Monotheism, properly so called, is the constant doctrine of the Semitic nations.* These are truly the great channels in which the two sacred rivers of humanity flow; but facts show us in the west, people of Aryan origin in some sort Semitised by christianism. All Europe is at once Aryan and Christian, that is to say, Pantheist by origin and by natural disposition, but habituated, through a religion which has come to it by the Semites, to admit the dogma of creation. This fact, which has been demonstrated by science beyond all dispute, has only been just caught sight of by Dr. Philipson in his *History of the Religious Idea*. Not sufficiently recognising the oriental origin of the European peoples, he was of opinion that the exterior part of the Christian creeds, and the fundamental doctrine of the plurality of the divine persons, are so many relics of paganism. He has only seen in Christianity a compromise between the Greek faiths and Judaism; concluding that the function of the Jews continues to be the conservation of the pure and primitive religious truth, and that Israel is always the people of God. According to him, the portion of christianism which proceeds from the Greeks and Latins is destined to disappear, and so the Christian nations will find themselves re-united to the doctrine of Moses; a false conclusion, which proceeds from an incomplete view of the reality, as if the nations ever went backwards, especially in religion, above all other matters, and as if christianism could revert to its point of departure, and renounce all the truths which it asserted the day when it separated from Judaism, and those which it has acquired during the succeeding centuries. If a radical transformation could be effected in the Christian doctrine, it would rather take place in a way opposite to that imagined by Dr. Philipson; for the Christian nations belong almost all to the Aryan race, the genius of which has just as much persistence as that of the Semitic, and possesses a scientific energy superior to that of the descendants of Israel. Besides, the reformation which M. Philipson looks for in the future, was tried, about twelve hundred years ago, in the very bosom of the Semitic races, that is to say, under the most favourable conditions for the expulsion of the Aryan element. That attempt produced the Koran, the doctrines of which are in some respects superior to those of the Jews, but are singularly surpassed by those of the Christians. The Arabs and the Jews form in humanity a section of pure race whose religion has borrowed but very little from foreign nations; monotheism of the most exclusive

* See "l'Histoire des langues semitiques", by M. Renan.

kind is the foundation of their faiths; for them God is not only unique, but an individual totally apart from the world, whose personal unity is absolutely indivisible, even in idea. It is the only human race which has conceived God with these attributes. When the monotheistic idea went out from the Semitic race to be diffused over the Aryan world, among the Greeks, the Latins, and, still later, among the nations of the north, it lost in their hands, its extreme rigidity and inflexibility. When the Christian doctors, when the Greek and Latin fathers, developed and constituted the Christian metaphysics, they thoroughly understood that the evolution of the world and its government are only to be intelligible by making of God a being much nearer to the world, and, consequently, more similar to the idea which the men of the Aryan race have always had of him. We may then say truly, with Dr. Philipson, that christianism has derived something from Judaism, and also from other religions. But we must say so in quite a different sense, and understand that Christian metaphysics have sprung from the encounter, and the mixture of the two great religious channels in which humanity has flowed—the Semitic and the Aryan current.

It is the business of science to discriminate the portion which belongs to either. The Christian monotheism, with the idea of creation, which is the consequence of it, has certainly a semitic origin, for neither the divine individuality, nor the doctrine according to which the world has been produced out of nothing, have ever appeared at any time in the Aryan religions: in Sanscrit, there is not even a word which means *to create*, in the sense which the Christians mean. Still it is well known at what time and under what influence the Trinity of the divine persons was theoretically discussed and definitively established. It was at the time when the school of Alexandria developed its theory of *hypostases*, a term which was adopted by the philosophers of that school, as also by the Christians, to signify what are called in Latin the *Persons* of the Trinity. The Christian doctrine did not lose sight of the individual unity of God the Creator, such as they had received it from the Semitic tradition, and the persons of the Trinity could only be the different aspects of God, equal amongst themselves, and equal also to the fundamental unity which contained them all. It was besides necessary for that doctrine to reconcile itself with that of the Incarnation, which the pure Semitic dogma was too narrow to admit. The creation, the trinity, and the incarnation of the son in the human figure of Jesus, constitute a dogma where the Semitic and the Aryan element have united without being lost in each other. The Alexandrian philosophy is, on the contrary, exclusively Aryan; for it proceeds at once from Platonism, and

the doctrines of India and Persia, which had been fermenting in Alexandria for four hundred years. Pantheism admits neither the individuality of God separated from the world, nor the possibility of a creative act producing something from nothing; but, on the other hand, the Absolute Being cannot pass into action and develop itself by virtue of the law of emanation, except by first of all clothing itself in secondary forms to which the philosophers give the name of *hypostases*. The diversity of these hypostases does not allow any one of them to be equal to the Absolute Being, in which they reside: it is their sum which is equal to it, and when each one of them develops itself in turn by virtue of the same law, none of its modes is equal to it, but it is equal to the sum of its modes. We now see in what limits the doctrine of the philosophers exercises its influence on the first development of the Christian metaphysics, and how the latter are found equally in opposition with the Alexandrian pantheism, and with the Semitic monotheism, having all the time certain affinities one with the other.

As to the incarnation, it constitutes the point of dogma which separates at the present day most completely Christianity from the Semitic religions. In the Bible, God inspires the prophets. In the Koran, Jesus or Mahomet; but in order for God to be incarnate, it is necessary he should have several hypostases; which brings the Aryan doctrine in formal opposition with the Semitic. Christian orthodoxy has never shown any weakness on this point, and it has been right: the doctrine of the incarnation is the first foundation of christianism: he who does not admit the divinity of Jesus Christ is no Christian. The history of heresies shows with what energy the orthodox dogma disentangled itself from all those which only appeared to compromise it. The West, then, must give up being Christian before it can yield to the Jews on a point of such importance. I add that it must cease to be Aryan, which is impossible. It is more easy for a man of our race to admit the incarnation of God in a corporeal form than to conceive the prophetic inspiration in the Jewish or Mussulman sense. The belief in the biblical prophecies has been much weakened in the present century, and may die out altogether. The belief in the divinity of Jesus will endure, because it is conformable to the Aryan intellect, and can be reconciled equally with the idea of emanation as with the idea of God the Creator: now these are the only two metaphysical systems which can make any figure amongst men.

The two tendencies to which the better part of humanity is subjected find themselves united in Christian metaphysics, and make of the Christian a truly universal religion. The Semitic beliefs, on the contrary, proceed exclusively from one alone, that to which the name

of monotheism has been given; a name badly chosen, because at bottom the Aryan pantheism demands the unity of God just as much as the doctrine of the Jews and Arabs. That which is exclusive in the Semitic idea has had two consequences which have been developed in history; in matters of religion, the Semitic nations have preserved themselves from every foreign influence, and they have not been able to propagate their dogmas beyond themselves, except by violence. The Jews have never attempted to convert other nations; they have been content with regarding themselves as privileged and superior to the rest of mankind. The development of Islamism appertains rather to political and military history than to the science of religions. It has extended itself over the nations of Aryan origin in Central Asia and Hindostan, and also over the yellow races in many countries of Asia. But it is by war that it has made these conquests, and by force that it preserves them. Amongst those nations who have definitively adopted it, the violent energy which animates them has become the most striking feature of their characters, and what is true of the white or yellow races who have been semitised by Mahometism is all the more so of the black races. The natural mildness, then, of Christianity is derived from the Aryan race, where it has been disseminated, and not from the Semitic element in it; the intolerance which has been borrowed from it sometimes, is neither in the essence of its dogmas, or its spirit, which is a spirit of mildness. If it has sometimes used intolerance, it is its alliance with the temporal power which has been the cause: a candid study of history leaves no doubt on this point.

II. The duality of origin which we have perceived in the Christian dogmas is found equally in their rites. The history of the Christian ritual has never been made; science in that respect is far from being perfect. Everything which has been written on this subject before the discovery of the Veda is insufficient; as to ourselves, we can only give here indications, and trace the path which science may essay to pursue. That book has yet to be written. The science ought, of necessity, to commence with a perfect picture of what goes on at the present day in our churches; to classify the ceremonies; to distinguish according to orthodoxical doctrines those which are accessory from those which are fundamental, and give none but the authentic interpretation of any one of them. After that, we can proceed to the history of the ritual. That history must be constructed like that of dogmas, by going back through time; in fact, the existing state of ceremonies is a solid ground on which a science may be founded; but if one were to go down the scale of time, we should have to commence by that part of history which is least easy to elucidate, that is

to say, by the beginnings. If the Christian ceremonies proceed from the Gospel, the Gospels themselves are not, as to the ceremonies contained in them, the original books, because they were preceded by the entire development of the Hebraic ritual. We must then set out from Genesis, which answers to the most obscure period, and what is in some sort the most mythological one of the Hebrew nation.

And we must add to this, that everything goes now to show that a considerable portion of the Christian ceremonies comes from sources which are not Hebraic, nor even Semitic, in such a way that we are obliged to assert at first starting certain facts as settled, which, on the contrary, ought not to present themselves except in the very last conclusions of science. As we mount up the stream of years, we make successive eliminations, we see the ceremonies getting more and more simple as the most recent disappear, and when we approach the real origins of the ritual, it becomes possible to distinguish the sources from which it emanates. This kind of history does not, indeed, resemble a river whose principal course is formed by streams which come to it on all sides, but to a reservoir, which after having united the waters of two or three sources, spreads them out in an infinite quantity of channels. We are, so to speak, at the extremity of the channels, and we cannot arrive at the primitive sources excepting on the condition of mounting patiently up the stream.

When we apply this method to the study of the Christian ceremonies, we arrive at this result, that many of them, examined by the aid of the Bible and the Hebrew customs, have an origin quite un-Semitic; others, on the contrary, were practised amongst the Jews, and passed from their ceremonies into the Christian. Thus many of the great festivals of the year bear Hebrew names, many objects consecrated in the churches are reminiscences of the ancient law; but almost all the parts of the sacred office, the altar, the fire, the victim, everything which gives a visible representation of the dogma, or the story of the incarnation; and again, in another order of facts, the temple, the bell, many of the sacerdotal habits, the tonsure, the confession, celibacy, are so many symbols or usages whose origin ought to be sought anywhere else than among the Jews. We may say as much of the prayers and words which are pronounced in the majority of the sacred ceremonies; those which are not taken from the Psalms, or otherwise quoted from the Bible, are animated with a spirit which is by no means Semitic; many of them resemble, both in form and substance, the chants of another race, the originals of which we possess.

It is proved by many documents anterior to Christ that Buddhism was known at that epoch in the south-west corner of the Mediter-

ranean. The Buddha is mentioned by the Hellenising Jew, Philo : the doctrine of the *Samanai* of India, which are nothing else than the *gramanas* or disciples of Buddha, was celebrated and appreciated in Alexandria, and in all the oriental parts of the Roman empire. The Bible is not the only foreign book of which the Greek scholars had knowledge at the time of the Ptolemies. The foundation of the Museum, suggested by a celebrated professor of the early days of the kingdom of Egypt, Demetrius Phalerius, had created a centre for studies where the doctrines and frequently the sacred texts of all the religions then known were incessantly discussed with a scientific liberty, to which our schools are a stranger. At the time when the Christian ceremonies were established in the societies so often clandestine of the primitive church, Buddhism with its doctrine, its ceremonies, and its hierarchy, had already existed six or seven hundred years, and had sent out its missionaries from India into almost all the countries of the earth. On the other hand, it is certain the Veda was known to the Grecian world before the coming of Christ. In the Alexandrian poems, published under the name of *Orphica*, there are verses translated word for word from certain hymns of the Veda ; there are names of divinities which are found in these hymns only, and which never appeared in the true Greek pantheon. The ceremonies which are performed on Holy Saturday, after the renewal of the fire, not only have a most decided Vedic character, but contain a certain prayer, which can be altered into a Vedic hymn, merely by substituting the Aryan and Dasyan words for the Hebrew and Egyptian ones. Here are some facts enough to set us out on a new path.

We are told from Berlin* that a considerable part of our ceremonies comes from India ; but as the science of the Christian ritual has not even been sketched out, we dare not announce as certain an assertion which reposes on hypotheses, or even at the very best on probabilities ; and for this very reason we have insisted on this point in hopes that the science will lose no time in advancing in that direction. However that may be, it is certain that the Christian rites have more than one origin, and manifest in their development the double tendency which is also remarked in their dogmas.

We ought not to be surprised at this, if it is true, according to a theory which is confirmed by a general observation of facts, that the ceremony follows the dogma, and is its sensible and symbolical expression. The Hebrew ceremony follows from the Hebrew dogmas alone, and these are of a rigidity which has never allowed them to bend to the necessities of other races, or receive anything from with-

* A. Weber, " Histoire de la littérature Indienne".

out. Israelites admit amongst themselves from other nations, nothing but their material products. They were to them the object of a lucrative commerce, which from the time of King Solomon extended to India from the Red Sea, and finished by propagating itself throughout the ancient world; but all their manifold collisions with strangers never changed their religion, which continues to last. The invectives of the Holy Ones of Israel against the introduction of foreign ceremonies and the harsh penances which the people of God had to suffer more than once before being restored to favour, are so many proofs of the inflexibility of the Hebrew rites and the spirit by which they are animated. By selecting from them the human element and adopting Aryan rites whose grandiose symbolism accorded well with the new dogmas, the early Christians placed themselves on neutral ground, which was open to all nations, and have instituted a worship which is truly universal.

Besides, this double tendency did not produce all its effects at one blow. It would be a mistake to suppose that when we have got back to the epoch of the preaching of Jesus, we had arrived at the beginning of the Christian dogmas and ceremonies; both go back very much higher; but it is only at the time of Jesus that the equilibrium between the old wants and the new wants was found to be broken, and that Christ by his life and death consummated a work which had been prepared long before. Men only see a revolution when it explodes; but science studies the march of slow actions whose accumulated effects at last produce revolutions. The Christians of the first centuries had from their dogmas and their symbols a sentiment full of enthusiasm; little by little, both were developed, and the sentiment became divided and lost its energy. At this day the meaning of the Christian rites is known to scarcely a single individual, not even by the priests who perform and preserve them; their origin is generally ignored. As to the dogma, although formed out of everything which is most pure and most human in the metaphysics of past ages, it has seen the lay philosophy separate itself from it; for this, given up to the study of human thought and admitting without demonstration a dogma of creation just as absolute as that of the Jews and the Mussulmans, has lost the feeling of the orthodox creation operating by divine persons. By attributing the creation of the universe to an Absolute Being who will not admit multiplicity of essence under any form, it asserts in fact a miracle which is more incomprehensible than that of the Christians. The result was, that Christianity underwent in its dogmas and its worship one of those crises to which all religions are subject when they are traversed by a system of philosophy. It was the Semitic tendency, concentrated in philosophy,

which produced this rupture, for the Aryan tendency in science as in religion, has always leaned towards the theory of divine emanation.

The double influence under which Christianity was born and has been developed, renders the study of it much more difficult than of either of the two Semitic religions. It has always been very hard to disentangle the Aryan element which it contains, either in modern times, when it proceeds directly from the spirit of the European nations, so opposite to that of the Semitic; or in the first centuries, when it was born and strengthened under the action of the ideas and usages of the East. It was impossible that the separation of these two elements of doctrine could begin to operate till after the discovery of the Indian books, when it became possible to understand the relations of the East with the Greco-Latin world, and penetrate the beginnings of mythology. There is in christianism a very important symbolical portion, which, without this discovery, would have remained for ever inexplicable; for the Hebrew doctrine, from which the other part is derived, excludes, so to speak, all symbolism, and everything which can clothe itself in the forms or attributes of humanity. The same obscurity prevailed over the ancient religions of Europe, and would never have been dissipated, had not a knowledge of the Vedas and of comparative philology, to which it gave a foundation, arrived and illuminated the subject. From the day when the hymns of the Veda became known, science has seen unrolled before it a gallery of representations, whose prominent features we will now point out.

It is but a few years ago since mythology was considered as a collection of fables, that is to say, of pieces of wit and of poetic creations, with which the ancients had illustrated their works and embellished their buildings and their gardens. All the world remembers the decision of Boileau on

"All those gods who are sprung from the brains of the bards."

and the course he advised the rhymsters and the artists to follow in consequence. Looked at as sacred conceptions, they were called false gods, and the religion of the nations who adored them was paganism or idolatry. At the time when christianism, in the enthusiasm of its novelty, was still struggling against the genius of antiquity, the iconoclasts, a sect animated with the exclusive spirit of the Semites, came to an identical verdict upon their rivals, and began to break the images. But the Aryan mind gained the advantage, and a less severe opinion of images and symbols finally prevailed. Among the moderns, the gods of paganism found a home in art, where they

still remain. Only their religious character has entirely disappeared, and they are considered as nothing more than poetic allegories.

The science of our day has, in its turn, again reconsidered that appreciation. We have seen in the east great nations of the same race as ourselves adoring gods exactly like those of Greece and Rome. We have seen, in one of those religions which has the greatest number of followers, and which in so many ways resembles that of Christ, in Buddhism, these same divinities reunited into a true Pantheon, without the men of that worship being taxed with idolatry. Finally, going back from century to century, the learned have been able to discover the very origin of these sacred figures, whose primitive symbolism is still manifest in all its glory. This is the great path of the Aryan intellect, which has thus by degrees displayed itself with all its subdivisions. When its progress has been free and spontaneous, it has manifested itself under three successive forms. The last is Buddhism. The intermediate form is Brahminism, with Mazdeism, or the religion of the ancient Persians. The most ancient form embraces the religion of the Vedas, the mythologies of the Greeks, the Latins, and the northern nations. The history of religious revolutions shows us the mythologies of the west preserving up to their last moments their primitive character, undergoing only internal and unimportant modifications, and finally disappearing in the space of some centuries before christianism, with which they have been in part incorporated.

To study with any profit the spontaneous movement of the Aryan religions, it is in Asia that we must go and seek them. Mythologies can only be illustrated by comparing them with the dogmas and worships of the east. As to the remains which have been preserved in the popular traditions of Europe, they would be completely unintelligible, if we were not able to find out their origin and signification in the Vedas. But, from the time of their arrival in India to that of the propagation of the Buddhist faith, the Aryans of the south-east have lived isolated from the west. The chain of mountains which, towards the central ganglion of the mountains of Asia, detaches itself from the great diaphragm of Dicaearchus, and descends from there, southwards, down to the sea, separates the basin of the Indus from the southern provinces. To the north, the Himalayas present an insurmountable barrier. The only passage which allows of communication with India towards the west, lies towards Attock, and leads down the basin of the Oxus. It was by this path that the Aryans of the Vedic period descended into Sind. By sea, the most ancient relations of their descendants with the Semites date from the kings of Israel, and are posterior to Rama, the hero of one of the

great Brahminic epic poems. These relations were exclusively commercial, and, according to all probability, did not extend beyond the shores of the continent and the island of Ceylon.

When, in the sixth century, before our era, the Buddhist revolution, which had been preparing for a long time before, came about, the external influences which had been exerted upon the Brahminical religions had been only in very insignificant proportions, and at the very utmost only by the introduction of some legends, rather poetical than sacred, like that of the deluge.

Science now considers it to be actually demonstrated that Buddhism was produced by the spontaneous action of internal causes in the Brahminic civilisation. The Siamese ambassadors who came to the court of France during the reign of Louis XIV were Buddhists. Attention was directed to the religion of these men, who appeared very civilised. The name of Samanocodom, the Sanscrit *çramana Gautama*, was recognised, which is the same as Buddha. The extraordinary resemblances which were observed between the religion of the Siamese and Catholicism gave rise to the idea that they sprung from an ancient Christian sect, that of the Nestorians. An acquaintance with the Buddhist writings of Siam and Ceylon rectified this mistake in the first instance. Later, the Nepaulese MSS. which were brought to Europe, and the knowledge of Tibetan and Chinese Buddhism, left no room for doubting that the Buddha Cākṣyamuni lived nearly a thousand years before Nestorius, five centuries and a half before Christ, more than two centuries before the foundation of Alexandria, and fifty years before the establishment of the republic of Rome.

We have indicated the dominant character of Buddhism, which sprung from a revolution in morals, and not from any radical change of doctrine. Although metaphysics occupy one of the three parts of the collection of Buddhist writings known under the name of *Tripiṭaka*, it would be quite as unjust to Buddhism, if we were to judge it from that point of view alone, as it would be to christianism, if we were to neglect the moral and civilising action which it has exercised since its birth. The theory of *Nirvana*, which has been made the special Buddhist dogma, was known to the Brahmins long before the advent of Cākṣyamuni. It is, therefore, a secondary point; but such is not the case with the moral regulations introduced by Buddhism, with the moral purity, humility, and universal charity, which form its fundamental precepts. The success that it has obtained outside of India, among the yellow races, and in Oceania, the long ramifications it has extended towards the east, up to the old Grecian world, and by the eastern ocean, even into ancient Mexico, can only be explained by

the moral transformation which emanated from it. It was driven from India in consequence of the equality which it established between the Brahmins and the other castes, and the right which it gave all men to aspire to, and be clothed with, sacerdotal functions.

In other respects, all the morality of Buddhism springs from its metaphysics, of which it is only a new application. These metaphysics are in fact pantheism, conceived under its most absolute form, and comprising all real or ideal beings in a hierarchy where man can occupy different degrees, according to his knowledge and his virtue. These two qualities are not presented arbitrarily, as homes from which emanate the characters which legitimately distinguish men from each other. The Buddhist theory only arrived at that point after psychological analyses and æsthetical considerations which have never been surpassed by the philosophers of Europe. It is hence have been derived all the practical consequences which make of Buddhism one of the religions which exercise the most energetic moral action on the soul. In proportion as Indiologists advanced more and more in their knowledge of the east, they discovered new bonds which attached the morality of Buddhism to its metaphysics, and that again to the Brahminical theories which had preceded it. From the point at which science has now arrived, we may consider the religion of Buddha as the issue, by natural evolution, and without any exterior influence, of the pure Indian mind, and that it is a spontaneous consequence of pantheism.

We should have generally but a very incomplete idea of Buddhism, if we regarded it merely as a moral institution. There is the great development of a priesthood in full hierarchy, and centralised northwards, both in Tibet and China, and southwards in the islands and the peninsula beyond the Ganges; a spiritual power analogous to that of the Pope, and which, after being at one time united to the temporal power, has been again separated, and shows, at present, the example in the kingdom of Siam, of two kings reigning simultaneously in the same capital, and exercising without conflict their two powers; a worship whose splendours often surpass the most brilliant catholic ceremonies; an extension of the monastic life which leaves far in the rear the convents of Spain and Italy; finally, a very large number of rites and usages, which make the religion of Buddha approximate to that of the Christians. All this, moreover, is only the outside of the matter, and merely that which must attract the attention of the most inattentive traveller. The perusal of the Buddhist *sutras*, the translation of many of them, have enabled the learned to get to the very bottom of these doctrines, and disclose to us a moral education which may be said to equal that of the Christians by its elevation, its purity,

and the empire which it exercises wherever Buddhism is dominant in the east.

We must insist on this point, which is now undisputed by any one, because an acquaintance with Buddhism, considered from this point of view, has given us the laws which the religious spirit of the Aryan nations obey, and also because it rectifies one of the most exclusive theories of our European moralists, that which concerns the morality of pantheism. Explained for the first time clearly, in his lectures on the *Droit naturel*, by M. Jouffroy, that theory has been adopted by his school, and is now taught everywhere in France. We need not contest it now on speculative grounds; but when we approach it with the new facts which the study of the east provides us with, it has been contradicted in the most formal way an *a priori* theory can be; for, of two things, one; either the nations who for twenty-five centuries have adopted at once the metaphysical theories and the moral precepts of Buddha have committed the grossest inconsequences in practices which their daily life is interested in, or pantheistic doctrines have none of those consequences which French theorists have sought to deduce from them. This contrast between a system which philosophers imagined was established, and a fact which has persisted so long, and embraces such numerous populations, is explained in the eyes of orientalists by the very incomplete knowledge of pantheism possessed by philosophers up to the present time. Abstract theories, however well deduced, are never, in point of fact, equal to experience, and experience in this case is offered to us by oriental Buddhism, realised before our eyes in gigantic proportions.

The second station of the Aryan mind in Asia is marked by two great antagonistic religions, that of the Persians, and that of the Brahmins. The first existed a long time in its proper principles without undergoing any important alteration in its contact with the non-Aryan races; so it is in the books attributed to Zoroaster that we must now search for its original form. The *Bundehesch* and the *Shah-Nameh* of Firdousi, which are of later date, already afford many legends and even beliefs whose origin is certainly not Aryan, and which come either from Assyria and Chaldæa, or even from countries further south. Before the text of the Avesta had been translated and commented on by the learned of our time, the pantheistic character of the Persian religion had not been, so to say, understood. People had only been struck with the exterior symbolism of the worship, and the dualistic appearances presented by the myth of Ormuzd and Ahriman. Since then, it has been seen that this last personage is far from being placed in the same position as his rival, for he is represented in the legend as neither eternal nor immortal, and is destined one day

to disappear. As to Ormuzd (*Ahura mazda*), science has ceased to consider him solely under the personal form given him by the legend and the worship; for the study of the Zend texts has proved that he is derived from a metaphysical conception of a much more abstract character, that of an Absolute and Universal Being, such as is found in all the pantheistic systems of the East. It was not in the metaphysical substratum of its doctrines that Mazdeism was found to be in opposition to Brahminism, but through its symbols, which are the part of religions which is most accessible to the people; through its worship, which springs from the symbols, and is accommodated to it; and through the particular form which a worship always gives to a civilisation.

As to the origin of the Medo-Persic race and religion, European science finds itself in face of a great hypothesis, which was indeed very probable, but which had not been demonstrated by clear and authentic texts, until we had in our hands the hymns of the Veda. Ever since the invasions of Darius and Xerxes, Greece had learned to recognise brothers in her enemies; the reader will recollect the beautiful allegory of Æschylus in the *Persæ*. Later, in Alexandria, the relationship of the two nations was made plain by the alliance, which was effected between their doctrines; the introduction into the Roman Empire of Persian worships, like that of Mithra, seems also to show that a certain affinity existed between these religions and those of the west. But it is only in our time that it has become possible to follow the march of religious ideas in that important part of the ancient world. The study of Sanscrit has opened the way, the discovery of the Vedas has unveiled the beginnings, and it has been possible to recognise in the religion of Zoroaster one of the most original, and at the same time one of the most grandiose, productions of the pantheistic spirit of the Aryans.

In any case, the Zend literature, even with its most recent additions, is so restricted, that it cannot offer to the science of religion documents comparable to those which India has furnished it and still continues to promise. The whole of the sacred books of Brahminical India would make up a library. Although the date of many of them can only be approximately fixed, and oscillates in most cases between limits at a distance of more than five hundred years from each other, still we can see our way a little, and we are already able to follow the march of Brahminical doctrines, and mark the principal moments of their evolution. Brahminism offers two striking features, which are in some sort unique in the history of religions. It has survived a great religion to which it gave birth, viz., Buddhism, and has also undergone internal transformations, which have made of it as it were

a series of distinct religions. Besides, as we have said, it seems to have contributed to some extent to the explosion and the first evolution of Christian ideas, both in Egypt and in the eastern part of the Roman empire.

The rising of Christianity was fatal to Judaism. The dispersion of the Jews, the destruction of their temple and that of their sacred city, did less to reduce them to the state they are in now than the religion, although it sprung from theirs, and in the midst of them. In the centre of India, in the best days of the Brahmin religion, the metaphysical ideas of a school which was already ancient, joined to the highly elevated moral sentiment of a prince, in whom centred the public need of a restoration of manners, gave birth to a new religion. A church (*sangha*) was seen to be formed, animated with an ardent proselytism in the bosom of a society which had no church, and where no attempt had ever been made to convert any one. The reform was hailed with acclamation by the people, whose condition was elevated by it; it was welcomed by the kings, because it did not attack their privileges; and accepted by many of the Brahmins, by reason of the purity of its morals. But the equality of birth of the Sudra and the Brahmin which was proclaimed by the Buddhists, the accordance of the priesthood indifferently to all men, armed against the new religion the Brahminical party, which was the preserver of castes, and, after existing ten centuries, Buddhism was chased out of India, and has never entered it again.

Nevertheless, Buddhism added nothing to the Brahminical conception of the Deity, and, consequently, could not legitimately introduce new rites. Its church and its powerful organisation did not tend towards the establishment of a new and more perfect religion. Buddha was not considered either a god, or as an incarnation of any divinity. In Brahmin India, that reform could therefore only be regarded as a revolutionary attempt, which aimed at the suppression, or at all events the weakening, of the institution of caste. By the substitution of a priesthood recruited from the very lowest ranks of society, to the hereditary priesthood of the Brahmins, who were pure Aryas, and whose families could be traced back to the Vedic times of the invasion, it put an end to the institution of caste, and caused a social revolution in India, in comparison with which our revolutions of the west were only child's play. Finally, that came to pass which unfortunately almost always happens, that the reform of morals was sacrificed to reasons of state. Thus, Brahminism survived, and still exists.

We may then trace, by going back through the series of ages, the progress of religious ideas, and the development of worships in Brah-

minical India, from the present time up to their beginnings. Their history is the exact counterpart of the Semitic religions. The monotheism of Genesis, in the course of its transmission from generation to generation, has undergone none but secondary transformations. Its history is reduced in some sort to the purification of the idea of an individual God, an idea which cannot be extended or diversified, and which can engender nothing out of itself. On the other hand, when it once took life in the minds of the Aryas of the south-east, the pantheistic conception of an universal God residing in the bosom of the universe is capable of putting on various forms in practice, and producing new worships. In fact, one of the fundamental ideas of pantheism is that of incarnation. He who does not admit the possibility of an incarnation, can no more be a pantheist than a Christian. In the Indian theory, which was very early pushed to its extreme limits, the absolute unity of the Being was the fundamental conception of its metaphysics. This absolute Being is neither creator nor father of the universe, for these two qualities suppose an active force, moving out of itself, besides which, it is possible to conceive something more still, which does not admit in any way dualism. Brahm is, as it were, the pivot on which turns all the metaphysics of the Brahmins. The name is neuter, in order to show that he is not the father of beings, and is indeclinable, in order to show that he does not enter into any relations, and therefore is absolute. The three forms which in times relatively modern make up the Indian trinity (*trimūrti*), Brahma, Vishnu, and Çiva, may be regarded as divine persons. We may say of them all that the Alexandrian philosophers have professed in their theory of the *hypostases*. Brahma, who is the active force which has emanated from the absolute Being, lives and acts in the universe, of which he is called the father, the ancestor, the producer. No one of these names ought ever to be translated by the word *Creator*, because once for all, the idea of creation has no existence in the Sanscrit language. It is by way of emanation that he engenders the universe, just as a father engenders a child; and it is by a law exactly analogous to that which the Alexandrians called the law of *return*, that he absorbs in himself all beings by destroying their perishable forms. That double law is symbolised in the Brahminical religion under the figure of the vigil and of the sleep of Brahma.

Regarded under his more strict relations to living beings, the Absolute Being takes the names of Vishnu and of Çiva, who represent in modern times, not the productive and destructive principles of the universe, as was long imagined, but the divine person which animates living beings, and that through which all the forms of life go to resolve themselves in God. If we desired to find in the Indian doctrines

a counterpart to the second person of the Christian Trinity, we should have to select Vishnu; but still we should find fundamental differences, because Vishnu is not the son of Brahma, and makes part of a pantheistic system. As to Çiva, there is nothing in Christianity which answers to him, because the law of *return* is not really found anywhere in it. Still, when the Brahmins had once for all been able to conceive the absolute unity of being, finding themselves in presence of a multiplicity of living beings, which people the universe, and who are subject to the immutable laws of generation, of transmission and the analogy of forms, they were naturally conducted to the theory of incarnation, which is nothing at bottom but that of the universal soul, or of Vishnu. In fact, in the doctrine of the creation, God remains as substantially separated from created beings as they are from each other. Incarnation is by no means a consequence, as is proved by the modern philosophy, which makes no mention of it, and the Christian doctrine, which presents it as a miracle or a mystery. But in pantheism, under whatever form it presents itself, there is always a theory which resembles that of incarnation, and in Brahminism incarnation is a natural consequence of the principles admitted. Vishnu is the divine Person which becomes incarnate. He is not incarnate once only and by way of miracle, he is always and everywhere incarnate. There is not a living being, however low in the scale it may be, which does not bear Vishnu incarnate in it. In men his presence is manifested not only by life and the qualities of the body, but also, and above all, by those of the mind, which are the thought and the moral action. When a man, by the superiority of his intelligence, and by the correctness of an energetic volition, exercises over those of his own time, and the generations which follow, a superior influence, he is more especially recognised as a divine incarnation. Such were the gods Rama, such are the sons of Pândou in the Sanscrit epic. The development of the religious idea in Brahminism operates constantly through a series of incarnations, or personifications of the Absolute Being. As this Being has never appeared in the universe, and is scarcely accessible to the thought, it cannot act except by the personal energies which emanate from it, and these great divinities engender in their turn an uninterrupted series of sensible living forms, to which the names of real beings have been given. These generations cannot be produced without having in their very beginning the duplication of the sexes, which is the universal condition of life, in such a way that in Brahminism, when arrived at its perfection, every god has his wife, which is his feminine energy, and his seat of production.

III. We cannot here enter any further into these metaphysics. It is sufficient to say that, from its beginning up to the present day, it governs the whole movement of religious ideas in the East Indies.

By following this step by step, science can at this day give an account of the transformations of the Indian worships, and the polytheistic appearances by which they are characterised. A man who arrived in France or Italy from the East, without any knowledge of the Catholic dogmas, would take our ceremonies for idolatry, when he saw the statues by which they are peopled, and the exterior ceremonies which are carried on in them. But, if he were to read the books where the dogmas are enunciated or interpreted, he would see that a symbolism was to be extracted from those appearances, which could render them intelligible; and, through that symbolism, the fundamental doctrines of the divine spirituality, the trinity, and the incarnation. Just the same in India. Neither the worship of Çiva Mahadeva or Parvati, nor that of Krishna, and still less that of Vishnu, nor the figures, strange as they are, which are scattered so numerous over the sacred places, constitute an idolatry; for all these different worships, which followed one upon another, and which co-exist without destroying each other, express at bottom an exoteric doctrine which is spiritualistic within, and of which the pantheistic unity of God forms the essence. This is proved by the perusal of nearly all the Sanscrit writings, not only theological treatises, but also those poems in which the sacred philosophy often occupies an important place.

There is in the Brahminical religions, side by side with these doctrines, a collection of ceremonies, the foundation of which is always the same, whose accessory parts vary according to the divine person to whom they were addressed. These secondary rites appeared along with new divinities. Thus the sect which adores Krishnu follows a ritual which departs very much from Çivaism, and from the austere worship of the adorers of Vishnu; but, besides these secondary rites, there are in India certain fundamental rites, the analogy of which with the Christian has struck all the learned. The altar, the fire burnt upon it, the sacred bread and the spiritual liquor of the *sôma*, which the priest swallows after he has offered them to the divinity, the prayer he chants, which is always a petition in which a demand is made for physical and moral benefits; all these elements of worship are found in Brahminism, under all its forms, and at all epochs of its existence. Even if we did not possess the Vedic texts, we might presume that these essential rites are anterior to the organisation of the Brahminical society and the definitive constitution of that religion. This, however, is no more a mere hypothesis; since the perusal of the Vedic hymns has unveiled for us all at once, in these last years, the origin of the Oriental pantheism, of the Indian divinities, their impersonations, their symbolical attributes, and, finally, the permanent rites by which they are honoured at the present time.

Krishna is a modern incarnation of Vishnu. Brahma and Īva are no more Vedic divinities than he. The word *Brahman* is often employed in the Vedas, but it means there the prayer, the ceremony, the worship, the performance of which takes place within the sacred precincts. The altar is there as a shape: it is quadrangular, looking to the four cardinal points, which was the reason afterwards why Brahma was represented with four faces. The conception of that god was substituted insensibly for that of Agni, which is at the same time physical fire (*ignis*), the vital heat, and the thinking principle, always united to life. Agni is the great divinity of the Vedic hymns. Pantheism is only to be found there *in embryo*, and in a state of preparation; but still there it all is, so to say, planned out in the commentaries of the Veda, which were composed between the period of the hymns and the epoch of Brahminism. It was, therefore, at this epoch that the Aryan mind took in India a definitive direction. Up to that time, naturalism had been the foundation of its doctrines: the great phenomena of nature alone had occupied the thoughts of priests, who were at the same time poets, fathers of families, labourers, and warriors. Beyond these phenomena, they had formed some idea of the forces from which they emanated; and, without at all deluding themselves as to the personal reality of those powers, they had lent to them intelligence and life. In this sort of mythological pantheon, Agni occupies the first place. The priest lights up the altar at the break of day. The spark engendered by friction is communicated to the dry, light wood. The alcoholic liquor of the *soma* and the clarified butter are poured over it, and unite. Then the priest summons the gods to the sacred festival, which is composed of milk and cakes, sometimes of flowers and fruits, sometimes also of an immolated animal. The gods arrive. None of the performers doubt their real presence round the hearth in the fire and the cake. These gods are especially those of the sky and the atmosphere. Vishnu, who inhabits the upper regions, whose chariot is the sun. Rudra, who stirs the air, and has under his dominion the resounding band of the Maruts, who are the winds. Indra, king of the upper regions of the air, where he fights the clouds, the lightning and the thunder, and causes the fertilising rain to descend upon the earth.

When the Brahmins came to reflect upon the part assigned to Vishnu, who in the Vedas is nothing but a symbol of the sun and its productive power, they were not slow in attaching to their idea of him all the phenomena of physical and moral life, since it is even at this day incontestable, as M. Janin has recently shewn, that the development of the physical life proceeds below from the heat of the sun, of which it is only a metamorphosis. On the other hand, the

Brahmins, not seeing anywhere in the world thought separated from life, concluded that the principle of one is identical with that of the other. And thus the penetrative energy of Vishnu becomes the very principle of the generation of living beings, and afterwards of incarnations.

It is now notorious that Çiva, who has become one of the three persons of the Indian Trinity, and whose worship is so very important in modern India, was at first Rudra, king of the winds. Rudra, by insensible transformation, has become a formidable being, known as the destroyer of life. As to Brahma, although we cannot sum up his history in a few words, we understand that the prayer (*brahman*) must be regarded as the expression of the thought in its most divine element, which, being personified, gives room for a great symbolical divinity.

Thus are prepared the elements, whose reunion made up later the Indian Trinity; Brahma representing the thought, and with it science and religion; Vishnu, life in his divine unity, and in his incarnations; Çiva, the law of *return*, by virtue of which all living and thinking beings, as well as inorganic substances, disappear and return to where they sprung from. As to Agni, the metaphysical portion of him being no longer necessary to his existence, he became nothing but the sacred fire, symbolical part of worship, mouth of the gods, messenger who transmits in odoriferous vapours the offering of those who adore them to their vast bodies. The only thing wanting to constitute pantheism, such as it has existed in the East for more than three thousand years, was to conceive these divinities as forms of one and the same Absolute Being, and to refer this diversity of figures to one unity, of which all representation was excluded. This is the unity which has received the neutral name of Brahma.

When we try to go back as far as possible in the history of the Vedic period, we do not find there the slightest trace of pantheism, excepting that there is an equal absence of any idea of creation. The most ancient hymns, and everything which gives us any opportunity of becoming acquainted with the times which preceded them, leave no doubt as to the nature of these primitive religions. These were nothing else but polytheism. This is a very important fact in science; for it is in formal opposition with what is believed by many among the Christians, that all religions proceed from the biblical tradition. That opinion is false, and must be entirely renounced. There is absolutely nothing in the Veda which emanates from the same source as Semitism. The more ancient its hymns are, the less we perceive any idea of a separate deity isolated from the world. God was first of all conceived by the Aryan mind under a multiplicity of forms.

These divine figures were at the outset nothing but physical forces deified and amplified. Later they put on metaphysical conceptions, transforming themselves little by little, and sometimes changing their names; and it is only after many centuries that the Aryan intellect was at last elevated to the conception of the absolute unity. As they had chosen for their point of departure the real things which fall under the cognisance of the senses, and the not less real facts which conscience reveals to us, they have never lost sight of the solid basis on which their religious edifice rests. Thought, life, the infinite succession of forms which pass one into the other without interval, as the waters of a river which flow without interruption—these are the things which have always occupied their minds, and which have conducted them by the most direct path to that pantheism, of which the Western nations have so incomplete, and often so false an idea. The idea of an individual God, isolated from the world, is to be found nowhere in the Aryan doctrines, neither at the end, nor in the middle, nor, above all, in the origins of the Vedas.

At the point where we now stand, a science of quite modern creation, comparative philology, begins to play a part which no other science could supply. It is not our present intention to give any account of it, or even a summary. We shall only say that its analytic and comparative method, applied to analogous words in allied languages, turns it into a means of investigation, which is at once inexpressibly important and exact. In fact, science has recognised the reciprocal independence of the Aryan languages. We know that Latin is not derived from the Greek, any more than German, Slavonic, or Lithuanian; and that these idioms have borrowed no words from each other till comparatively modern times. We know, also, that the Medo-Persic language, which goes by the name of Zend, is neither daughter nor mother of the Sanscrit; and that the same is the case with the European languages. Philology, having established these truths beyond all doubt, has at the same moment demonstrated very numerous analogies between all these idioms, and has thence deduced their relationship and common origin. Hence has sprung that comparative study of languages which is called comparative philology. The mother language, to which this method leads us, is now spoken nowhere; but science has reconstituted its foundation and its essential forms. It reposes upon this principle, that the ancient terms which are found in all the languages of the family, once belonged to the primordial idiom; and that this is also the case with every term which is common to any two of these languages, when it has been satisfactorily proved that it was not borrowed by one from the other. These last terms evidently existed before the most ancient of the two

branches was separated from the Aryan trunk; and the terms common to all are anterior to the separation of the first of them. Now, amongst these terms, some express family relations, others social or political relations, others material facts, others, finally, religious conceptions. These last are more ancient than the most ancient sacred monument of the Aryan race, which is the Veda.

Thus has come into existence a new study, comparative mythology, which is for the religious past of humanity, or at least for that of the Indo-European nations, what geology is for the past of the terrestrial globe. From the day when the learned began to read the Vedaic texts, the analogy of the divinities which they found there with those of Greece and ancient India struck them at once. Then they extended the comparison, and saw that they must comprehend in one and the same very ancient religious system, not only those three pantheons, but also those of the Germans, the Scandinavians, and the other nations of the north of Europe, as well as the original part of the myths of Persia and India. From that moment, there was an end of considering these mythologies as arbitrary conceptions; looked at in their proper point of view, they became recognised as natural and spontaneous products of the Aryan intellect, in the religious development of which they mark the primitive or polytheistic period. Thus, the study of mythology returns within that of the general science of religions, forming, however, a distinct chapter.

When comparative philology is applied to mythology, it takes no account of the nature of the gods, and must not be seriously considered as a philosophic interpretation of polytheism. But as the names of the gods express the idea which was conceived of each of them, when each was thought out for the first time, a science which in a certain way pursues a word into the past, and establishes its primordial signification, may illustrate the study of myths and facilitate their interpretation. For some years it has been understood that in every mythology two parts are to be found; one which is common to the whole race, and which the nations have brought along with them when they quitted their native country, and the other, which is peculiar to each of these nations, and which answers to a local evolution of polytheism. This fundamental distinction modifies the results to which German symbolism had committed itself. Thus, the division of the Grecian divinities into the gods of the Hellenes and the gods of the Pelasgi is no longer so distinct as formerly. Still philologists would do very wrong to despise labours such as those of Kreutzer and De Guigniaut. Those books have thrown a very bright light on the history of mythology, and at the same time have caused it to be regarded as a serious affair, although in the absence of the Veda,

with which they were not acquainted, they could not ascend to its first origin. Besides, the great theory of symbolism will always remain. It would be impossible to understand how poetic conceptions and figurative expressions could generate religions and worships, if behind these words they did not conceal divine personages, ideal symbols of real forces veiled by the phenomena of nature. The reality of the phenomena is manifest. The winds, thunder, rain, the heat of the sun and its effects, are neither abstractions nor words. They are derived from forces which make their power felt and whose reality is incontestable. The forces are invisible and impassable. They elude the physicist, who can only observe the effects. They are metaphysical beings, and if the religious sentiment is awakened, they become Gods. It is only necessary to have the conception that they infinitely surpass and are especially powerful enough to control the phenomena. Under these conditions, it is possible to understand that by applying synthesis, we may operate upon the phenomena, and so reduce the number of divine figures, in the same way that by analysis they might be multiplied. A single classification of observed facts, reverberating, so to speak, on the divine forces to which they are attributed, is sufficient to reduce to some regularity the divine hierarchy, and institute a pantheon. A nation, which is brought close to the phenomena and is very far off metaphysics, rejoices in multiplying its Gods. The learned, from an opposite reason, march more and more towards unity. The western mythologies never arrived at this unity. Pure polytheism lasted in Greece and Rome, as well as among the barbarians of the north and west, up to the appearance of christianism. But in the east the Persians arrived at the conception of unity, though somewhat disguised by the antagonism of Ormuzd and Ahriman. The Indians alone put the idea into full light, and from the moment it appeared in their theology, it never was effaced. Only the pantheistic unity of the Being is not incompatible with the Trinity of the great gods, nor with a multiplicity of secondary gods or angels, to use the expression of M. Pallegoix, Catholic Bishop of Siam; for these gods are only the different faces of one and the same Being, and the symbolical expression of the forces he displays in nature.

I have traced out the general lines of science as applied to the great religions of humanity. Although it is only just sketched out, and the efforts of the learned are directed at this moment over every portion of its extent, it is already possible to comprehend even on this unequal ground, where men are tending to. The two ideas which have produced religious systems and worships are two standards round which the nations have grouped themselves. Erected by the two youngest of the human races, they have for a long time guided

them in a state of isolation one from the other. At every step they have been to them as symbols of war. Buddha was the first of human beings who preached universal charity and gave the seal of peace. But, inasmuch as his doctrine was exclusively Aryan, he made no converts without, except amongst barbarous nations, or those destitute of religion. The west was closed to him. Christianity, which came later, sealed by its metaphysics and its worship the union of Aryan and Semitic thought, and conquered all the western Aryans. But the Semites have not accepted it, in spite of its doctrine of one personal God, nor the Aryans of Asia, in consequence of that doctrine. It has converted but few Jews or Mussulmans, and not a single Indian. So the two primitive sources continue to roll down their waters in two separate channels. Wherever there has been an attempt to unite them, it has not up to the present time succeeded in absorbing the two others and forming a third current of religious ideas, on which the people of the west can be the only ones borne on. Is it to the Veda, the Bible, is it to the Buddhist or the Christian church that will one day belong the glory of uniting all the nations? Science is dumb on these problems. Its object is in the past, not in the future. Altogether, we must believe that the victory will remain to that which turns out to be the most true of these fundamental theories, unless, indeed, another should arise, which can embrace them all in its synthesis, and shall reunite in one universal church all the human races, and all their religions.

THE PLURALITY OF THE HUMAN RACE.*

FEW things are more observable in the scientific world than the change of tone which has taken place within the last few years on the subject of authority. Everywhere the supremacy of facts is now recognised, and the only loyalty even professed by the more advanced minds is not a faithful adherence to tradition, but unswerving fealty to the truth. The battle fought and won by astronomy in the days of Galileo, was in truth but the beginning of the war, and alone would have proved utterly inadequate to teach men of science their strength, or theologians their weakness. This was shown in the reception accorded to geology, whose stupendous revelations from the page of nature were long expected to bend to a written record. It is still shown in the

* The Plurality of the Human Race. By Georges Pouchet. Translated and edited by Hugh J. C. Beavan, F.R.G.S., F.A.S.L. London: Longman, Green, Longman, and Roberts.

criticisms provoked in certain quarters by anthropological investigations. We are free to speculate on the age of rocks, and even to inquire into the succession of plants and animals; but man is a sacred, and, therefore, a forbidden subject. His origin, antiquity, and special relationships have all been settled by a tribunal that laughs at induction, and treats opposing facts with derision, and, indeed, regards the mere tendency to independent thought on such momentous questions as *prima facie* evidence of irreligion. Till very recently, even the greatest minds bowed in submissive silence to this unreasoning despotism. However free and untrammelled in other provinces of investigation, they paused upon the threshold of man. He was an exceptional instance in the grand scheme of creation, an isolated phenomenon in the great plan of nature, to make free with whom, after the ordinary fashion of inductive inquiry, was little other than an act of open and scandalous impiety. After much conflict, permission was reluctantly accorded to speak of centres of creation, but ethnic areas were still a forbidden topic. On special difference as attaching to brown and white bears, and of organic diversity in relation to African and Asiatic elephants, it was quite lawful to dilate, but an Esquimaux and a European, a Negro and a Persian, were to be invariably treated as of one species. Freedom of inquiry ceased with man. In reference to this crowning glory of creation, there were certain foregone conclusions, with which it behoved none to meddle, under penalties that few cared to incur. Under such circumstances, it is needless to say that ethnology was little more than a name, and that true anthropology was utterly impossible. As a preliminary to all real inductive investigation, it is necessary that the inquirer be free, not only to observe, but also to announce the result of his observations. He must not only question Nature and abide by her decisions, but he must be prepared at all costs to publish his discoveries and promulgate his conclusions. Short of this, inductive investigations are a pretence, and scientific publications a delusion and a snare.

It is in relation to this most important question, freedom of inquiry, and we may add, liberty of speech, on the part of men of science, that the anthropological societies now rising in various parts of Europe are doing such good service to the cause of truth. Composed of the most advanced minds in the countries where they are respectively organised, these bodies present a barrier to fanaticism, and ensure freedom of inquiry and discussion, at least within the limits of their own meetings, and in the pages of their own publications. Here facts can be stated and suggestions can be offered without offence, that would probably raise a storm of prejudiced indignation, even in such quasi-liberal gatherings as those which surround the

British Association at their annual meetings in the provinces. For let us not deceive ourselves; the public, even the educated public, are still unprepared for the full reception of the truth as it is in nature, on the subject of man. They want our statements to be toned down, and our conclusions to be modified into accordance with their limited ideas, ere they will give us a favourable or even an unprejudiced hearing. They have not yet given up their idols. They are still under the dominion of traditional ideas, and in plain language, are too much the slaves of authority to listen without fear to the echoes of a freeman's voice. Nay, this tendency to restrain perfect freedom of utterance on anthropological subjects is not confined to the *vivâ voce* communications of the lecture room, but even pervades a large section of scientific literature, where the practised eye will easily detect the limiting effects of that "pressure from without" which is almost necessarily exercised by a public imperfectly acquainted with the facts and deeply tinctured with prejudices on the entire subject of man and his relationships. Hence, then, the necessity for effective organisation on the part of anthropological inquirers, not merely for the purpose of ensuring freedom of discussion among themselves, but also with the equally important object of supporting a literature devoted to the statement of facts, and the utterance of conclusions too far in advance of existing opinion for their easy reception by the general public, and yet eminently calculated to promote the cause of anthropological inquiry.

And while the first concern of every anthropological society should undoubtedly be to encourage the publication of *original* works, so as to aid in the primary object of adding to our common stock of knowledge, the next should be to promote the *faithful* translation of works, not calculated perhaps to pay in a merely commercial point of view, and yet of great and unquestioned value to the earnest student of ethnology. We have purposely used the epithet *faithful*, for even in the apparently simple matter of translation, suppression and modification have been carried to an extent which augurs but ill for the estimate formed by "the trade" of the liberality, and we may add, the intellectual manhood of the British public. To prepare a scientific continental production for unrestricted circulation in an English dress, its strongest statements, its most powerful arguments, and its most inconvenient conclusions had often either to be discreetly omitted or toned down, so as to take the sting, and with this it may be feared but too frequently the force, out of the entire work, so as to fit it for easy perusal in all the literary nurseries of the United Kingdom. Now, it need scarcely be said, that this is not what the members of our anthropological societies require. They want the truth. They

are afraid of no statements, nor do they stand in dread of any conclusion. They can hear without blenching whatever the strongest Continental has to say, and feel that they are quite competent to the reception of his facts and the digestion of his conclusions, without a careful selection of the former or a timid dilution of the latter.

It is under this aspect that the translations which have already appeared of Waitz and Broca are so valuable to the English student, who may feel assured that he has here a faithful and fearless transcript, not a weak adaptation, of the continental mind on his favourite science. From the pages of these writers he may learn what the anthropologists of other countries really think. By a careful study of these works, he may escape from his insular isolation, and place himself in direct contact with the collective mind of modern civilisation. And, as a farther continuation of this noble plan, we have now to hail the appearance of the work whose title appears at the head of this article. And, we may add, that we accept this last volume as being in an especial manner an earnest of the fearless courage and sterling honesty of the Society at whose instigation and under whose auspices it is published. Waitz, as a respectable monogenist, could offend nobody. Even Paul Broca, in his attempted demonstration of the ultimate infertility of hybrids, could only do so by implication. But Dr. Pouchet is offensive in his very title! Nor does that title belie the spirit of his book. It is not only independent; it is antagonistic. Not always contented with holding his own, he sometimes attacks his neighbours, in certain instances perhaps with more zeal than discretion. On this, however, every reader will, of course, form his own opinion; our consolation in the perusal of Mr. Beavan's verbally faithful translation being, that here, at least, we have the veritable sentiments of the author, with whom, therefore, we may agree, or from whom we may differ, with the satisfying consciousness that we are at all events dealing directly with himself, and not with some modified simulacrum, simply bearing his superscription.

If, indeed, there be an error in this otherwise excellent translation, it is not in the faithful rendering of the original, but in the scrupulous carefulness with which the translator, at every available opportunity, informs the reader of the extent to which he differs from his author, more especially on matters involving orthodoxy of opinion. This, we think, is carried to an excess. It encumbers the margin with needless notes, and sometimes painfully distracts the reader's attention from the text. For all the purposes which Mr. Beavan may contemplate in reference to himself, his own preface, with its disclaimers, was amply sufficient, or might have been made so. And as to the Society, they assuredly need not introduce their authorised translations

with an apology. They are above and beyond this, and in the calm consciousness of their noble motives, can afford to smile at the petty criticism, that would assail their proceedings, through the speciality of those foreign authors whom they are the means of introducing to the knowledge of the English public.

But it is time we should proceed to the work itself. As might be expected from the tone of the foregoing remarks, it is essentially liberal. The author commences by discarding sentimental anthropology, and *à priori* conclusions altogether. He argues from the facts of the case, quite regardless of ancient authority or existing prejudice, and if in doing this, he sometimes goes to an opposite extreme, the error is surely pardonable, considering the extent to which all ethnological investigations have been hitherto trammelled by theological dogmas.

As a necessary preliminary to all farther inquiry into man and his attributes, it is obviously desirable to settle his place in the animate scale. Is he a member of the animal kingdom, or the lowly germ of an order of being, superior to, and distinguished from it? On this important point, it strikes us that the facts and reasonings of Dr. Pouchet, though decidedly of a very advanced school, are nevertheless inconclusive and unsatisfactory. The problem is not grasped in its entirety. There are important data omitted, and powerful instrumentalities left unemployed. In saying this, however, we pass no especial judgment on the author, for such remarks will equally apply to nearly all other writers on the same subject. Nor are the causes of this unsatisfactory state of things far to seek; they obviously originate in the very imperfect state of cerebral physiology. With the whole subject of phrenology still *in dubio*, and with our greatest anatomical authorities in almost personal antagonism, what wonder that we can arrive at no satisfactory conclusion as to the place of man in the scale of being? We see in civilisation, with its religion, art, literature, and science, the effects of an intelligence, which we profess to be unable to discover in the organisation, and for whose explanation, therefore, we are driven to education and secondary forces, not perceiving, apparently, that the producing causes of a recurrent phenomenon like civilisation, must be sought in some organic proclivity of the type distinguished by this enduring tendency to culture and refinement. And if this cannot be discovered in the structure, then we may justly surmise that our anatomy or physiology must be at fault—for the facts are against us. It is the same with that grand intellectual distinction between animals and man; that they exist wholly in the concrete, while he occasionally rises to the abstract; that they are on the plane of fact, while he ascends to that of principle. If the cause of

this be not perceptible in the organisation, then the fault must be in the observer. But in truth there is no necessity for putting things in this subjunctive way. The organic source of the difference between man and animals, and even of the observed diversity between various races of men, is perceptible enough to the trained eye and hand of an observer, qualified for accurately estimating the cranial contour and cerebral development of each grand division in the organic scale. In the mean time, the most advanced anthropologists are scarcely prepared for this mode of investigating the subject, and we must not therefore quarrel with Dr. Pouchet because he does not employ it.

In his chapters on the Human Kingdom and on Comparative Psychology, the author cites many weighty authorities and states a variety of convincing facts, to show that the gulf between man and animals is neither mentally or physically so wide as is usually supposed, and embodies the results of his inquiry in the following succinctly stated law:—"From animals to man everything is but a chain of *uninterrupted gradations*; therefore there is no human kingdom." Now to the proposition, marked in italics, there can certainly be no objection; but what shall we say to the corollary? What, we may ask, will the outsiders think of us, if we allow such logic to pass unquestioned. Why, from the pebble up to man, there is an uninterrupted gradation; nay, from the grain of sand on the sea-shore up to the sun shining in the heavens, there is an uninterrupted gradation. All Nature is one. The whole creation is a vast unity; but must we therefore deny that it is separated into well-marked kingdoms? This is to allow synthesis to dominate analysis to such an extent, as to effectually disqualify us for the clear perception of necessary distinctions, an error of judgment as fatal in its results as the opposite condition of mind, which implies such weakness in the analogical faculty, that close resemblances are overlooked and profound relationships are disregarded. It was, perhaps, unavoidable after the statement of such a law, and, we may add, the manifestation of such reasoning based upon it, that Dr. Pouchet should come to the conclusion, which he does in his chapter on the Bimana, that "Man constitutes a simple family of the order Quadrumana." In a certain sense, it may be said that conclusions are the test of reasoning, and certainly if this of the talented author before us, be not a *reductio ad absurdum*, it approaches very nearly to it. Still, we by no means regret, that it has been so fearlessly stated, and, we may add, by so eminent an authority. The sooner the logic of error arrives at its inevitable terminus the better. Principles and processes must sometimes be seen in their results, if we would estimate the total amount of their perversity; and now that we find ourselves landed in such a practical absurdity as the foregoing,

we may, perhaps, be induced to reconsider the means by which we have been so misled.

In all recent discussions respecting the anatomical resemblance of the anthropoid apes to man, it seems to be forgotten that Nature abounds with transitional links, and that the quadrumana obviously constitute one of these; on their lower side, almost quadrupeds; on their higher, nearly bipeds. Again, it is equally forgotten, that man, even in his highest existent form, the Caucasian, is still but an initial type, only in the process of emergence; ethnically speaking, indeed, but the callow nestling of his order, while the inferior races, more especially the negroid, are still absolutely embryonic. Let us clearly understand, that until this great question of the relative ethnic maturity of orders, genera, and species, approach far nearer to a definite solution than at present, comparative anatomy, physiology, and psychology, can be merely tentative. And, lastly, throughout all these discussions, we have the error almost constantly repeated, of deciding special resemblances and differences from indications afforded by the periphery of effects rather than the causal centre of organic being. Thus we find writers, like our author, dwelling with exaggerated force on the structure of the extremities, while neglecting the stupendous indications afforded by the cerebral hemispheres. And because the foot of man is in certain races slightly prehensile, they confound him with the quadrumana, despite the incalculably important fact, that his brain is four times the weight of that of the gorilla; that its convolutions are immeasurably more complex; and that the relative proportion of its posterior, central, and anterior lobes is such as to indicate a mental constitution, so superior both morally and intellectually, that it is scarcely too much to assert of these two orders of being, that, psychologically, they are radically diverse, the passions and impulses being altogether preponderant in the one, the sentiments and faculties being predominant in the other. We trust that the severity of these remarks will not be misunderstood. We have the greatest possible respect for the labours of Dr. Pouchet, and all who with him have helped to put down the unreasoning despotism of authority; but in our free investigation of man, whether as to his origin or his place, let us not in the fervour of reaction against his undue exaltation, forget the palpable evidences afforded by structure and its correspondent function, of his vast superiority to every other type of terrestrial being.

Ere quitting this department of the subject, we would suggest to anthropologists, more especially in their anatomical and physiological investigations, the important fact that man, more especially in his higher types, is essentially a *cooking* animal. Hence his mouth, even in the negro, bears much too small a proportion to the remainder of the

face, and we may say the cranium, and even the entire organisation, to permit of adequate nutrition solely by the mastication of unprepared food. While it need scarcely be said that this remark applies with still more force to the superior races. Nor would we omit in such a consideration the relative proportion of the abdominal and thoracic viscera, the former apparently diminishing and the latter increasing as we ascend the organic scale, till in the nervo-fibrous temperament of the pure Caucasian we find respiration, and, we may add, cerebration, predominant over both alimentation and reproduction. It need scarcely be said that such data as the foregoing underlie all the more superficial controversies on dietetics, and go down to a depth little suspected by our good vegetarian friends, with their plausible theories, based on frugivorous teeth and a perspiring skin. Let us never forget that the true man, by which we mean the large-brained and small-mouthed Caucasian, performs the first part of his digestion in the pot, and that in virtue of the changes there produced by the fresh agency of *fire*, he constitutes No. 1 in a new alimentary series, where we suspect, data obtained from the gorilla with his stupendous jaws and most respectable paunch, will be found on further investigation, slightly inapplicable.

And while the facts to which we have been just alluding possess considerable value in helping to decide the true place of man in the animate scale, they are also of importance in the minor and subordinate province of racial relationship, and as such have indeed been very judiciously used by Dr. Pouchet, though not perhaps to the extent that might have been expected from his anatomical education. Indeed the proportion of the viscera in different races, and, we may add, in different temperaments of the same race, is a new inquiry, of which we owe almost the beginning to Dr. Pruner-Bey, but which is yet destined to furnish a most important field of inquiry to the more advanced anthropologists of the future. But it is time we should hasten to conclude our remarks on the work before us.

From the general tenor of the foregoing pages, it will be seen that we differ from Dr. Pouchet as to the grade of man, which we think he places too low. Still on such a subject dogmatism on either side would be quite misplaced, and we would rather be understood as indicating data than arriving at a conclusion. The true value of his book, however, is not in this its merely introductory portion, but in his facts and observations on races and their diversity. In the chapter on anatomical, physiological, and pathological varieties, the reader will find a carefully prepared collection of authorities, showing most extensive and varied reading, and constituting indeed an admirable *résumé* of existing knowledge on this department of the subject, and

which yet leaves on the mind the conviction that our travellers want training, and that even professed ethnographers are yet but imperfect observers. Dr. Pouchet here shows not only how much we know, but also of how much we are ignorant. But the conclusion to which every unprejudiced thinker must come after the perusal of this chapter is, that the more we know and the farther we carry our investigations, the more clear and convincing becomes the evidence of diversity. The more intimate our acquaintance with the various races of mankind, and the more profoundly we study their specialities, the more clearly does it appear that they differ, not only in structure and appearance, but also in function, and in susceptibility to disease. Indeed these are but parts of one great whole; for function must harmonise with organisation, and disease is but derangement of healthy function. Thus the negro's skin implies speciality in his emanations, and this, liability to some and freedom from other forms of disease; that skin again being profoundly related to his preponderant liver, and this again implying a peculiar respiratory relationship to carbon and oxygen, eventuating in a predominance of the venous over the arterial system. When we consider that in this way every healthy and rightly-constituted organism, when of pure type and on its own site, is in perfect harmony with itself, that all its powers and functions are perfectly balanced, and that the whole is in due relationship to the atmospheric and telluric forces by which it is surrounded, we shall cease to wonder at the unhealthiness and ultimate infertility of most hybrids, in whom this fine balance is lost, and who are in a sense the product of a generative chaos, that is, of conflicting forces, not constituted by Nature for harmonious conjunction. This also explains the historical disappearance of all colonial extensions of the ancient races on alien areas. While pure they were not in harmony with the telluric forces; when mingled, they were not in harmony with themselves. It is needless to say that these facts involve principles which are prospective in their results, because permanent in their action.

The chapter on the Intellectual and Philological Varieties is good, but far from exhaustive. It obviously wants the hand of a metaphysician and a linguist. But had we even this desideratum, it must be confessed we should still be deficient in the facts on which he might base his conclusions. Of philological ethnology, however, in the sense of defining races by language, independently of organic type, we have already had more than enough. We are glad to see that Dr. Pouchet maintains the sensible thesis, that every race is *relatively* perfect in intellect as in physical organisation, that is, it possesses all the powers requisite for the effective discharge of its peculiar duties

in the scale of being, and that the diversity of these endowments, as between different races, constitutes the harmony of the scale. Such ideas are an immense advance upon the state of things even ten years since, and show how much true anthropology has gained during the intervening period.

We could wish the author had gone somewhat deeper in his remarks on climate. He seems to confine this to atmospheric influences and temperature, neither of which does he think adequate to the entire modification of racial characteristics. But whether under this heading or some other, it is obvious that we want much additional knowledge on the cumulative influence of *place* on racial type. It should be remembered that the earth is a vast magnet, and in the cosmic sense of the term eminently and essentially *vital*. That the vegetable and animal life on its surface is the product of this planetary vitality acted upon by solar influences, and that the earth in this sense is the *mother* of all things living on her surface, whose relative place therefore as to her polar, equatorial, or medium regions must exercise an immense influence on their structure and character. Nor is latitude the only determining condition in this matter. It is obvious, for example, that the plastic forces of the old world are more positive than those of the new, and that perhaps as a result of this, animal life is at its maximum in the former and vegetable life in the latter. It is almost needless to say that these considerations must underlie all attempted definitions of ethnic areas and their effect on race. While at the same time the mere statement of such stupendous problems must show us how far we are from a mastery of the data requisite for their satisfactory solution.

The chapter on Hybridity is ably written, and abounds with profound observations that will amply repay the reader's attention; but after the masterly analysis of the subject by Broca, requires only a passing notice here.

In his remarks on Species the author avows himself a convert to the doctrine of development, or as he phrases it, the theory of *evolution*. Were this the place, we might here venture a few observations on the scientific *conversions* of our day. They are so frequent that individual opinion is beginning to be held as something rather unstable. For a man of eminence to start as the eloquent advocate of one theory and to end as a prominent supporter of another, has become so common, that it almost ceases to excite surprise. We can only say that while there are such phenomena on the surface, there must be some powerful undercurrents in the profounder depths of the scientific mind. From the time of Lamarck, and even before him, the idea of development as opposed to successive flats of creation,

has been gradually gaining ground. While the earth with all its dependant organisms was thought susceptible of instantaneous projection by an effort of the Divine will, the popular theory of creation was seemingly tenable. But the immense periods of geology, with their organic sequences, implying the *habit* of miraculous interference with the ordinary course of nature, was inevitably fatal to a merely theological dogma so imperfectly based. Let the opponents of development remember that evolution implies *law*, that law implies *order*, and that order is only another name for that "BEAUTY" which has ever been esteemed the best evidence of an indwelling divinity with his resultant harmony and perfection. Rightly viewed, there is nothing atheistic—nothing even irreligious in the theory of development. It merely implies one mode of divine proceeding in place of another. It is moreover purely a question of science, and as such its decision must be left to those who are prepared to investigate the subject through the evidence of fact rather than the authority of dogma. Once for all, then, let us clearly understand that theologians as such, have nothing to do with this great controversy; their attempted meddling with which is an impertinence that the dignity of science can afford to treat with the silent contempt it so richly deserves.

The fundamental error of the advocates of development consists in their supposing that evolution proceeds by a succession of *accidents*. This is a doctrine from every point of view thoroughly untenable. Terrestrial organisms constitute a grand harmonic scale of form and function, obviously evolved in obedience to law and in the fulfilment of a plan. Classes, orders, genera and species, are parts of one great whole. Plants and animals, in short, are *organs* of the earth, and the degree of their development, could we read it aright, would indicate with unerring precision the stage of its maturity. To talk of *accident* in such a matter, is like saying that a man's beard or a lion's mane has come by *chance* at a certain age. Science must not only outgrow such phraseology, but also the vague ideas which have given birth to it. We think that Dr. Pouchet's views on this subject are not only far in advance of Lamarck and the Vestiges, but even of Darwin. But still he does not seem to have fully grasped the idea of law, nor has he a clear and definite conception of the necessary relationship of all subordinate forms of life to the one telluric organism of which they are harmonic parts.

Contemplated only as the highest type of the mammalia, man is still the crowning glory of the earth, and his appearance must have synchronised with some well-marked period in her planetary growth. As a merely initial type still in the process of emergence, much in

him both of form and function must be imperfect, and perhaps even rudimentary, so that in the noblest races he is still a promise rather than a fulfilment. Above all, we cannot expect his special diversities to be so well marked as in those older organic series that have arrived more nearly at ethnic maturity. The bimana are at the beginning of their career, and as the first birds were largely reptilian, so are they more especially in their lower divisions, partially quadrumanous, or if you will, even quadrupedal. Let us not, however, on this account confound them with the inferior plane of organic life, to which they are doubtless related in the order of sequence, but with which they are no more identical than reptiles with fishes. Dr. Pouchet would make a vertebrate kingdom, and if so we may ask, why not an intellectual kingdom? But without going to this extent, we are fully justified in regarding the bimana as a distinct order, perhaps as a separate class, still initial, but to be furnished in due time, with subordinate genera and species, of which existing races are the foreshadowment, if not the actual germ. Let us never forget that specialisation is the surest index of place in the organic scale, and that man is the perfection of this among mammals, his posterior extremities being as essentially locomotive as his anterior are prehensile. And he is the *only* terrestrial being thus characterised, the anthropoid apes being an approach to, but not a fulfilment of this great idea. To the comparative physiologist it is needless to say how all-important is such a fact, the sure index of much else. For this purely prehensile hand is the infallible accompaniment of a proportionately intellectual brain and a correspondently developed nervous system. It is in this logic of correspondences, this ability to perceive harmonic relationships, in which comparative anatomists usually excel, that anthropologists are so often deficient. And it is this want which has permitted Dr. Pouchet to regard the foot of man as truly prehensile, while at the same time he would be willing to admit that his anterior extremities are not in the slightest degree locomotive. Now it is this last fact which shows so clearly that he is at the goal (of specialisation) to which the anthropoid apes, and even the baboons, tend, but which bimanous and intellectual man, the only rational and morally responsible biped in creation, has yet reached.

But it is time we should terminate this lengthened notice. The real merits of the work and the importance of its subject must plead our excuse for such an intrusion on the editor's space and the reader's time. The subject is yet certainly far from being exhausted, and we trust that Dr. Pouchet may be induced, at some future period, to favour us with his more advanced ideas in a third edition. There are points on which we decidedly differ from him, but they are few as com-

pared with those in which we cordially agree with him. And in conclusion, we cannot but congratulate the English student on his possessing this valuable addition to his anthropological library.

ZIMMERMANN'S L'HOMME.*

WE will give the whole title of this curious and interesting book, "L'Homme, problèmes et merveilles de la nature humaine physique et intellectuelle. Origine de l'homme, son développement de l'état sauvage à l'état de civilisation : exposé complet d'anthropologie et d'ethnographie à l'usage des gens du monde. Par le docteur W. F. A. Zimmermann, auteur du 'Monde avant la création de l'homme'. Traduit sur la huitième édition allemande." Verily, the learned doctor promises his readers enough information for any one book, or, indeed, we might say, for any one library, and we must now consider how he has fulfilled his promise. The volume itself is a goodly one, well printed, on fine paper; it contains 796 pages, and is properly illustrated with wood engravings. The subjects of these latter are good, but the execution far from being clear; and, to say the truth, the less said about the "art" portion of the work the better.

The author states in his first chapter the chief objects he wishes to place before the mind of his reader, and he states them as follows:—"The work we now present to the public has for its object the study of man; the study of his physical and moral nature; the study of the mysteries of his first origin; the study of the phases of his development and progress, through the thousands and thousands of years of his existence; the study of the remarkable contrasts and the characteristic traits of the different races of the human species; and in one word, the study of everything which natural science, the traditions of peoples, or history itself have collected from the researches and discoveries with reference to that creature which we call man." As we shall have to consider various points at some length, we will briefly glance at the contents of the first chapters. "Où l'homme a-t-il été créé?" is the title of the first. Concerning this point, we are not told much. Indeed, our author merely gives us an account of the ideas of various nations and peoples concerning the place of man's creation, and provides us with a map in order to illustrate his account of the Mosaic record.

According to a legend taken from the Ezour-Veda, he tells us,

* L'Homme. Par le docteur W. F. A. Zimmermann. Bruxelles, C. Muquart; Paris, Schulz et Thuillie. 1865.

Brahma, the Creator, came from the navel of the first man, Vischnou the preserver from his right side, and Schiva the destroyer from his left. This, however, as well as all the other wild tales, entirely fail in relating how this first man was created. According to this, the worshippers of Brahma would appear after all to consider him as second, as the offspring of some greater power, of whose creation or origin they profess to have no account. As to "how man was made," the doctor quotes M. Duhamel's idea, that man is merely an improved fish, and asks why this should not be possible. Schmitz, he remarks, thinks that the tulip is but the original form of the swan, and stranger still, that the serpent became a lion's tail, and falling off, changed in process of time to a palm tree. If such things are considered likely, or even probable, by our author, we shall not be surprised at anything we may hereafter find in his writings. However, we can only pity the unfortunate lion whose caudal appendage became loose enough to fall off, unless a new one were kindly provided for the occasion. Doctor Zimmermann does not say that he believes all this, but respecting the transition from a fish to a man, he certainly does say, as we noticed above, "Et pourquoi tout cela ne serait-il pas possible?" After many statements *pro* and *con*, our author allows us to consider him a polygenist, and opposed in opinion to Blumenbach and other authors, who consider that all mankind are descended from a single pair, saying, "That the manner of life, the difference of climate, and the peculiarities of the places in which they settled, introduced the differences which characterise the five principal races known in our days among the descendants of this first couple." A number of woodcuts are brought forward in order to show the varieties in the races of men, but for all anthropological purposes they are entirely worthless. The Siamese twins and the men with tails are touched upon at the end of the chapter, and then we come to the intellectual development of man and *humanity*. Here we have an account of the lake villages and Stonehenge, and a cursory glance at late discoveries of flint implements and fossil remains, from which our author infers that our ancestors existed at a much earlier period than is usually supposed.

The origin of language and writing is next touched upon, but we are not much the wiser after having studied the facts laid before us. Many of the mysteries and difficulties of speech are mooted, but there is little to explain the doctor's own ideas on the subject. He seems, however, to agree with M. Pouchet (*Plurality of the Human Race*, pp. 30-33) on several philological questions.

After a friendly visit to the Moa, a glance at the theories of the monogenist and the polygenist, and a hint or two about antediluvian weapons, we come to some chapters on zoology and the physical dif-

ferences between man and the ape. There is nothing very new in this, it is indeed a *resumé* of the best notes on the subject, with an account of the gorilla and its bony structure. The whole of this book indeed is a mass of generalisation, and consists more of a collection of the opinions of others than of any new ideas from the mind of the author himself. We admire the wonderful care and labour which have been expended in such a compilation, but can say little for its originality. The chapter on old legends concerning the flood is very amusing, especially that relating to Mexico, where it is believed that one man, named Coxcox, escaped destruction by water, and married the woman who had also alone escaped, by name Kikequelz. Truly, here is a fine point for genealogists, and those inhabitants of England who rejoice in one half of the Mexican Noah's name may claim Mexican descent with a great show of truth.

Of course we have a long account of the negro in that portion of the book devoted to the description of races. We do not know that much remains to be said on this question, since the appearance of the very able treatise on *The Negro's Place in Nature*, by the President of the Anthropological Society, but of course each author has his own ideas on the subject. Dr. Zimmerman tells us that the notion that a negro's colour is unchangeable is not the fact, and says it may be altered more or less by washing the skin with chlorine or lye-water.

The influence of climate is a very important point, and one deserving of some attention. It has always possessed its warm partisans and its equally warm opponents, who naturally enough go to extremes. There may possibly be a *juste milieu* in this case, and climate may be able to alter in some slight degree the type of a race, but neither so powerfully as some insist, nor in so slight a degree as is maintained by others. That climate and food bear an important part in the animal œconomy cannot be doubted for a moment, but the point to be determined is the *amount* of force it exerts upon the same. "It is sufficient," says our author, "to look around us in order to be convinced that well-fed men are differently constituted to those who live in want. The peasant of Pomerania, Holstein, and Oldenburg, thanks to his nourishing and rich food, is completely unlike the inhabitant of Central and Southern Germany. The Norwegian peasant is doubtless not so fat, and has less flesh on his bones, but he is stronger, since he lives well and takes plenty of exercise. His limbs have none of that roundness which fat gives to those of the northern German, but his muscles are firm, and he supports all the fatigues of his out-door life without any trouble. The Samoied, the Laplander, and the Esquimaux eat a great quantity of meat and blubber, and grow round and fat. The thick layer of fat under their skin renders them less sensible to

the cold. The seal and the whale, whose blubber is also thick, do not feel the cold of the North Pole." So much for food. But our author in the end declares that acclimatisation is a fallacy. "Tall or short, intelligent or stupid, men partly owe the differences which distinguish them to climate, but climate gives way before the influence of race and origin. It is then an error to suppose that we can pass from one race into another by submitting ourselves to a new climate and a new manner of life." A large portion of the work is taken up with a description of the manners and customs of the southern tribes, the Fijis, Australians, Malays, Dyaks, Africans, etc. This is certainly interesting, but we have no space to remark on the same beyond saying that it is a clever compilation, well and ably put together, and illustrated with many clear remarks from the learned author. "Man in a state of nature" gives occasion for several anecdotes of wild men and boys, and one concerning a wild girl, which is interesting:—

"In Sept. 1731, the servants of the Seigneur de Soigny (a village some leagues from Châlons) were surprised one day to see a young girl upon an apple tree, regaling herself with the fruit. She seemed to be completely wild, and to be about fourteen years of age. They attempted to seize her, but before that could be done, she had got over the garden-wall and had disappeared in the shrubbery. As soon as the Seigneur de Soigny heard of this, he examined the wood with all his servants, and soon discovered the fugitive. Ladders were placed against the tree in which she was sitting, but with the agility of a squirrel she sprang from branch to branch and eluded her pursuers. After this they had recourse to a stratagem. A vessel full of water was placed at the foot of the tree where she was last seen, and the servants and neighbours placed themselves in ambush. As soon as the young girl seemed to consider herself in safety, she came down the tree, and began to drink, plunging her mouth, nose, and chin into the water much like an animal.

"The pursuers rushed out, seized the young savage, and succeeded in overpowering her, although she made a desperate resistance. As soon as she was brought into the kitchen of the castle she was washed from head to foot, but before that could be done she seized upon two chickens which had been killed for the master's dinner, and, tearing them to pieces with teeth and nails, ate them up in an instant, certainly before the cook had time to rescue them from her clutches. For a long time this unfortunate creature lived entirely on raw flesh and blood. She would not wear any clothing, but tore it up directly it was put upon her. She soon began to become attached to the house, as she was kindly treated, and could come and go whenever she chose, a liberty of which she sometimes took advantage, and stayed away whole days at a time. It was noticed that on these excursions she ran so fast that she could catch hares. As soon as any game was caught she skinned it, drank the blood, and devoured the flesh. One day in winter she presented herself with two hare skins on her

shoulders, but it did not seem to be for the sake of warmth, but only in order to appear extraordinary, for she carried a club made of a heavy cane, and dressed herself up with a girdle of rushes. If it were not a naturalist like La Condamine who tells us all this, we should take it for a fable.

"Great pains were taken to make the child speak, but in vain. At last she was persuaded to wear a few clothes, at first very light ones, and by degrees ordinary apparel, and it was hoped that something might have been made of the poor girl, when unhappily M. de Soigny died. She was then shut up in a convent, and soon began to pine away, deprived as she was of air and liberty. She endeavoured to escape, and was then sent to another convent, where she soon died of pure melancholy."

We have several more instances, but chiefly those well known to anthropologists, some of which have already been noticed in our columns.*

We are told how nations degenerate, and that some people are very superstitious, and then we have an account of those races that subsist chiefly on hunting or fishing, of those who live almost entirely on horseback, and those who possess no horses at all, of those who roam about from place to place, and of others who lead a sedentary life.

We must complain, in some degree, of the large space devoted to geography and phrenology. Valuable as is the former science, it merely fills up a few hundred pages in the work, and tells us nothing either new or very interesting. The latter matter, phrenology, might have been left out altogether, with no loss to the reader.

As to language, we have a *résumé* of what others have written on the subject; but the author does not attempt to go deeply into philology.

The last chapter of this singular book commences thus:—

"The aim of this work being chiefly to present a sketch of the human race in its primitive state, so as to be a sequel to our work, 'Le monde avant la création de l'homme,' it is not necessary for us to describe the efforts which have been made by various peoples in order to improve themselves, and thereby gradually arrive at a state of civilisation; nor is it necessary for us to describe civilisation itself. . . . Men may be rendered perfect, or rather, are capable of any amount of improvement, and we may declare *à priori*, that any nation may progress if particular circumstances do not impede it. These circumstances generally proceed from climate, and the manner of life of which it is a consequence, and these may be classed into two categories. Either the climate condemns man to incessant labour, which prevents him from having the time necessary for the cultivation of his mind, or he spends

* See Anthropological Review, vol. i, p. 16.

his whole being in idleness, from being able to subsist without trouble, and from the attraction of a wild and vagabond life."

And then it concludes:—

"The first period is that of the reign of theocracy; the second, that of a struggle between philosophy and theocracy; the third will be characterised, we may safely affirm, by the victory of the spirit of liberty, and the acknowledgment of the principle that a science can only be formed by the means which God has placed at our disposal, and which are Reason and Experience. Such a progress would be immense; and if we added to it the suppression of hatred between races, and of war itself, we may declare that this earth would not so often deserve the name of the 'Valley of tears,' which poets have sometimes given to it; but even if we may predict this result with certainty, it is not quite so easy to determine its date, and *when* all this will come to pass. Besides, this would be a useless question. All that we have to do just now, is to work courageously, and to study the paths already trodden by others, in order to make our own shine with a clearer light. This is what we shall doubtless do in other works."

A bold promise, indeed; but we cannot doubt but that Dr. Zimmermann will attempt it. The enormous mass of material which is found in the present work proves incontestably that he is a man who is patient and diligent; for the labour required to collate all the authorities he mentions must have been very great. We can recommend his work to the student of anthropology, not as an authority on any point of the science, but as an interesting illustration of the same, which will well repay reading, and from which many useful hints may be obtained. We cannot say that the author has fulfilled the promises of his title-page; it is quite impossible for any one book to do that; but, as an interesting and amusing work, as a hand-book of manners and customs, and as a series of notes on many subjects connected with anthropology, we can cordially recommend it to our readers.

MYTHOLOGIC LEGENDARY TALES OF SOUTH AFRICA,
AND OF THE ESQUIMAUX IN GREENLAND.*

HERE are books, truly and fairly anthropological, which exhibit to us the extent of that new domain thrown open to scientific study by the introduction of our science—books with “a child” for a text, and the infancy of a people for a study. And yet, to an ordinary reader, they are simply gatherings of legendary tales—some in *replica*—of a savage tribe; legends with no poesy of language in them, undistinguished by gorgeousness of imagery like those of Burmese or Brahmanical story, and not in any degree reflecting the glitter of a primitive fount, from which the poet of our day could drink inspiration. On the contrary, the stories are rude, rough, often shapeless, and most of them characterised by the crudities of a barbarian mind. And yet they have to us a special and significant value, one that is not to be expressed lightly, or to be passed over with indifference.

But before remarking upon the legends contained in this collection, we are inclined to examine, we admit somewhat speculatively—for as yet scarce any reliable or recognised data have been laid down—how far the state of individual childhood is in itself a type of national childhood; how similar, in mind, and ways, and action, an untutored nation is to a child groping its way towards mental light and knowledge.

In a broad way, man, “the microcosm”, as the psychical philosophers of the seventeenth century liked to call him, has always a lesser microcosm to learn from, in some primitive people, whose national and social ways typify to him his own individual beginning, and of whom his child-time has been a shadowy reflection. But this correlation of personal with national life has never advanced beyond a certain shadowy and indistinct recognition of the fact in its broadest sense. Difficulties, too, present themselves on the side of the child; and these add seriously to the haziness of an hitherto unrevealed path. How few, and how indistinct, recollections have we retained of our childhood,

* “Reynard the Fox in South Africa”; or Hottentot Fables and Tales, chiefly translated from original MSS. in the library of His Excellency Sir George Grey, K.C.B. By W. H. J. Bleek, Ph.D. Trübner and Co. 1864.

“Kaladlit assialit”, or Wood-cuts drawn and engraved by Greenlanders. Gothaab, in South Greenland. Printed in the Inspector's printing office, by L. Möller and R. Berthelsen. 1860. 1 vol. 4to, pp. 52, plates.

“Kaladlit okalluktallit. Kaladlisut Kablunátudlo. Attuakæt ardlait et Attuakæt pingajue. Nounngme. Nunnap nalgata Nakiteriviane Nakitat; L. Möllermit, 1860 et 1861.” 2 vols. 8vo, pp. 186 and 111, plates. With translation into Danish. Godthaab: Möller. 1861.

of the dawn of reason, and the first employment of the intellect ! True, that the poets may be true in singing of our birth as but a death and a forgetting—

"The soul that riseth with us, our life's star,
Hath had elsewhere its setting,
And cometh from afar";—

and until some larger portion of Infinite Wisdom—from which source alone all true light cometh—is granted us, we shall make but little headway in the determination of the question. But certain it is that the pathway before us is even now widening, and becoming more firm to our mental tread.

The earliest beginnings of a people are indisputably best to be learnt by a search for, and careful examination of when found, their dwelling-spots. We are not inclined to believe strongly in the migratory tendencies of the primæval tribes. We fancy their lives, habits, and customs, were limited within a narrow bound. Where they lived, there they died and were buried. At all events, such a conclusion forces itself upon any one who has carefully investigated the few, as at *present* discovered, dwelling-spots of pre-historic people in Northern Europe. A Puritan preacher of the seventeenth century once preached a sermon, now one of the rarities of bibliography, upon the text "Man is born to travail, as sparks fly upward", into which text, he chose to tell his hearers, a curious error had crept, the word intended being "travel"; and accordingly, from this remarkable discovery of his ethnological mind, he extracted a conclusion, which certainly was of no particular ethnic importance; but, even if his critical reading of the text had been the correct one, it certainly could not have been in force among those peoples whom, for want of a better title, we designate "pre-historic". From the examination of their oldest dwelling-spots, it is as yet impossible to say, by correct reasoning, what similarity existed between the ideas of the most primitive people whom geology and anthropology have yet been able to discover, and those of "savage" tribes still existing amongst, or near to, a civilised people. Certain broad anthropological generalisations are possible, but these do not help us far towards what we require.

Yet, returning to the earlier part of our disquisition, no thinking man ever doubts the similitude existing between the *type* primitive tribe and the child newly born into the world. With increasing knowledge, the likeness will be more apparent; for the reason why we cannot now see this likeness clearly is one easily to be comprehended: the subject is too deep and great to admit of being treated exhaustively with our present comprehension of its data. We must not say that the similitude does not exist, because we cannot now see it clearly. Much has to

be learnt on the subject; and we drink the waters of truth from a fount not likely to cloy, or become tainted and unwholesome.

We heartily concur in the wish expressed by Dr. Bleek, that other philologists should take up the subject, and do for other lands what he has done for Kaffraria; collect and correlate the fables of other savage tribes with those already known and published, either current amongst civilised peoples, or orally transmitted through the lifetime of savage tribes, living both near to and distant from them. A remarkable likeness is observable between the household tales of savage peoples as far apart as Patagonia, Namaqua Land, and the Labrador peninsula. By such correlation we may be able to approach—purely viewing the subject from a literary point of view—nearer to a comprehension of what the earliest workings of human fancy really were. Such a work would aid, in no mean degree, the ethnic relationships of peoples, now sundered widely from each other, and we are glad to think that one “antiquary,” at least, Mr. Haliburton, F.S.A., of Nova Scotia, is engaged in the investigation. His elaborate papers, tracing the observance of such festivals as that of Hallow-e’en to the Southern hemisphere, are well known to those antiquaries, who, like Mr. Kelly, delight in tracing customs to their primal source. But what Mr. Haliburton and other zealous divers in the ocean of a buried past should do, would be to bring up such pearls of truth to the surface as would illumine the perfectly savage tribes now existing in the midst of civilised people; tribes—even races of men—still, to use an almost slang phrase, standing out in the cold. And to enable this to be done, the legends of such tribes, actually existing, should be gathered together and correlated with those of others, near-lying or distant, or with those orally transmitted of extinct tribes, whose time of dying out has been more or less distant. Oral transmission, as Max Müller has taught us, is a very reliable method of making the future acquainted with the thoughts, fancies, and doings of the past, and a flood of light might be thrown on the domestic lives and ideas of the rude hunters and fishers of the East Scottish seaboard, if their legends and fables could be found. Surely such rude employments of the intellect, which were to them the only home literature they knew, are worth inquiring after and garnering into our anthropological barn. Customs yet lingering, and even practised still in Scotland, show that our primitive settlers, whoever they may have been, personified the elements, and doubtless had their traditions and fables about them. Who will collect these fragments—these indications of what Prof. Max Müller may be inclined to call the metonymy of ideal imaginings—these pseudomorphs of fancy, to borrow a term from mineralogical science? Surely they are as well worth enshrining among the records of anthropology as are the fables of South African savages.

Dr. Bleek's remarks upon the origin of myths and fables, although containing nothing new, are so exceedingly well put, that we extract them in full: "It has been justly remarked by our learned friend, Mr. Justice Watermeyer, that the natural propensities of animals in all parts of the world being so much alike, fables intended to pourtray them must also be expected to resemble each other greatly, even as to their very details.

"But we may well ask why it is that, so far as we know, the Kafir imagination seems not at all inclined to the formation of this class of fictitious tales, though they have otherwise a prolific native literature of a more or less historic and legendary character. This contrast to what we find among the Hottentots appears not to be accidental, but merely a natural consequence of that difference of structure which distinguishes these two classes of languages, embracing respectively the dialects of the Hottentots, on the one hand, and those of the Kafirs and their kindred nations, on the other; in the former (the Hottentot), as in all other really sex-denoting languages, the grammatical divisions of the nouns into genders, which do not tally exactly with any distinction observed in nature, has been brought into a certain reference to the difference of sex; and on that account this distinction of sex seems in some way to extend even to inanimate beings, whereby a tendency to the personification of impersonal objects is produced, which in itself is likely to lead the mind towards ascribing reason and other human attributes to irrational beings. This is the real origin of almost all those poetical conceptions which we call fables and myths. Both are based on the personification of impersonal beings, the former by ascribing speech and reason to the lower animals, whilst the latter substitutes human-like agencies in explanation of celestial and other elementary phenomena in place of their real cause."

Myths, Dr. Bleek regards as "petrified excrescences of a traditionary creed"; and fables as the "humbler sisters of myths"—definitions which appear to us singularly happy. As regards the "fables" and "household tales," together amounting to forty-two in number, we prefer directing the attention of our readers to them *en masse*, rather than serving up any one as witness to their general flavour. Regarded psychologically, they appear to be a tolerably good index of the Kafir mind. The qualities of certain animals are presented as a sort of apotheosis of those kinds which characterise the Kafir and Hottentot. The fox outwits other animals by his exceeding cunning; the jackal takes a front place in the council of beasts, by reason of his admirable trickeries, and in one fable by his wisdom. Noble animals, such as the lion, suffer grievously from the company or

through the designs of those acute animals who, when hard pressed, and in danger through the consequences of their wicked "jokes," contrive to make the jackal their scape-goat. In turn the jackal, known in our school-boy days as the "lion's provider," attempts to swindle the lower animals, and gets most signally outwitted by the ram and the cock. In another group of these fables the weak confound the strong; the tortoise, swallowed by the elephant, out of revenge, proves the destruction of the colossus; in other ways this same pigmy causes the death of the ostrich and the giraffe. To the same group of tales belongs one wherein girls confound strong men, and lure them to a pitfall. A separate group is one entitled "Baboon Fables." These are very well worth careful comparison. Indeed one (No. 17), "The Judgment of the Baboon," has a singular similitude to the well-known English nursery tale of the little old woman whose obstinate pig obliged her to seek the aid of some dozen unsympathetic personal and impersonal helpers, an old German version of which is the story of "Huncken und Hencken," the lamentable history of the husband-cock who was obliged to stand on one leg in a tub of weak beer to save himself from drowning.

With these exceptions, we fail to discern in the tales of Southern Africa, any of those popular narratives which are of common diffusion amongst the natives of so-called "Aryan" origin. We see in Kúrdistan the popular ballad of "Lord Lovel"; we encounter in most of the languages of Western Europe the story of Jack and the Beanstalk; but the Equator seems to offer an impenetrable barrier to the circulation of those legends which have spread north and south to the Icy Cape, and to the head waters of the Nile. On comparison of the Hottentot tales with those of Bornou, as described to us by Kölle, we find none which are common to the natives of Southern and of Equatorial Africa. Should a like comparison be applied to the natives of America, we would find there that there are in that continent also no narratives which are common to the Semitic and to the "Aryan" sources of legendary information. The great antiquity which can be inferred for the dissemination of the tales of Europe and India cannot be predicted for the tales of Southern Africa, at least from any information which Dr. Bleek places at our disposal. On the contrary, we find in every tale which bears the marks of a carefully constructed plot, evidences of close contact on the part of the natives with the European settler and colonist. It is from modern European civilisation that many of the allusions are drawn; and it is to the low opinion which the savage possesses of the morals of his conqueror that the satirical descriptions by the Hottentot of European hypocrisy are due.

In thus giving a hearty welcome to this little book, we think it a

pity that a larger selection from the mass of household and legendary tales placed at Dr. Bleek's disposal was not made; no doubt another, and probably still more interesting collection, judging from some titles of tales which Dr. Bleek tantalises us with, will reach us at no distant day, but they would have had a higher general value had they been incorporated with those now given to us. In proportion to our earnest investigation into the workings of the intellect and imagination amongst prehistoric and savage tribes will be the measure of our attained knowledge as to their ethnic and social position. Who knows how many "old lamps," fondly imagined by us to be "new," we may not discover by faintly-shining glimmerings from the dwelling-spot of a primitive or even "savage" people; not, perhaps, from the evidence of the completed work, but from the existence of ideas which, like the separated movements of a watch, needed but the master-hand of a higher human intelligence to unite them, and create the work. Ideas leading to discoveries are subject to certain terms of incubation in the world of mind; and he who "discovers" a principle in this boasted nineteenth century which brings to him wealth, and leads him up to honour, is but the lucky exponent of one which others, working the gold mines of thought years ago—perhaps ages ago—sought to grasp in its fulness of detail, and failed only because the time of its revealing was fixed for the hereafter.

It so seldom happens that a new literature is born into the world, that the appearance of the Esquimaux volumes, to which we have referred above, in civilised Europe, printed by natives, under the direction of the Moravian missionaries, is a phenomenon in the world of letters only comparable with the visit of a comet, or an exhibition of mock suns. They contain the legends which form the only national history of the Esquimaux, profusely illustrated by wood-cuts, some even coloured, in mediæval reds and yellows; so that they remind us more of the rude cuts contained in the block-books, and other early printed works of the fifteenth century. We need scarcely remark upon the high anthropological value of this legendary and real history, thus collected and presented to us.

The first-named volume is the earliest contribution of the Esquimaux to the literature of the world. An explanatory note informs us that—"These wood-cuts are the result of experiments undertaken in 1858-60, to test the natural capabilities of the Greenlanders for this branch of art. The whole have been engraved, and, with the exception of Nos. 1 to 8, composed and drawn without assistance by five or six natives of Greenland, the necessary wood and instruments having been lent them. The best of these wood-cuts are the product of a Greenlanders named Aron, living near Godhaab, who has received no better education than the generality of his countrymen."

The *Reine Hortense*, which took Prince Lucien Bonaparte to Got-haab, is, perhaps, the best and most artistic of these. About twenty cuts in this book illustrate the domestic life of the Esquimaux, the remainder being devoted, in the true spirit of a primitive people, to the illustration of incidents in the lives of some olden heroes, whose fame and prowess—either for good, as those who had rid the country of its human or supernatural enemies, or for bad, as they who were dreaded through the land as “fierce man-slayers” (the ogres of Esquimaux tradition)—had descended to them from their forefathers, enveloped in about as many clouds of haze and mystery as such mythologic individuals usually are.

Of these, the most noted are the following:—Akgissaik, a valiant champion, “descended both from the inhabitants of the coast (Esquimaux proper) and from the inhabitants of the interior (probably the North American Indians).” Of this worthy, a long history is given. Mr. Taylor, Commissioner for the Eastern Coast of Greenland (to whom we are indebted for the whole of these interesting volumes), has prepared a careful translation of this and all the other legends from the original, and kindly placed it in the hands of Mr. Geo. E. Roberts to arrange for the press. Much, therefore, as we should wish to give a general outline of these remarkable mythological tales, we are unwilling to anticipate their appearance. Suffice it to say, that in the history of this man of might, and in those of his compatriots, Kagssuk, “a mighty homicide”; Kunnuk the orphan, who, after escaping from a hostile attack upon himself and comrades, wandered over the country, and performed many valiant deeds; Kenake, who became invulnerable and invisible; and Ungilactake, a fierce man-slayer, “who lived on the coast of America opposite Greenland,” appear the most valuable clues to the ethnic and geographical derivation of the peoples now inhabiting that land. In one legend, current originally among the Esquimaux in Labrador, a passage occurs, evidencing a remembrance of human sacrifices, either for a cannibal purpose, or as a religious rite—“They (the nephews of Sikkoliarvinjuitok) had a space enclosed with great stones, and they enticed into it all whom they wished to kill.”

It may naturally be supposed that the Moravian missionaries in Labrador have also been instrumental in procuring many of these curious and anthropologically-valuable legends, together with fragments of folk-lore from their converts. As an example of the method apparently pursued by them, we shall give a literal translation of one contribution to our scanty knowledge of this singular people, supplied by “the old widow Debora” to the Moravian missionaries, and included, as an *addendum*, in one of these curious volumes.

"In obedience to the will of Satan, I also in my youth followed the bad manners and customs of my kindred; but why was it? I was bound in Satan's bonds. When I was in the family way, I was obliged to observe these things, viz., I dared not eat entrails, nor blubber, nor seal's stomachs, nor even the flesh about the ribs, nor the upper part of the shoulder.

"When the child was born, they took the heart, lungs, liver, entrails, and stomach of a seal, mixing them together. Then the child was cleaned by licking it with the tongue, which was only done lengthways, not across. When this was done, the mixture I have mentioned was given me to eat; and all this was to confer health and long life on the child. During the catamenia, I dared not undertake any unclean matter, nor touch any animal matter, not even with a finger.

"When my husband was out hunting seals, it was not considered lucky for me to dress or prepare reindeer skins; and, had I done so, there would not have been any seals or any other animals caught.

"Our forefathers whenever they had one of the Tunnit (Greenlanders) in their power, bored holes in his forehead with boring tools, and so killed him, therefore the Greenlanders fled from our land. We are the descendants of the people who did these things, but we will not kill others, for we know Jesus."

The illustrations are in every case full-page quarto, or octavo woodcuts, exceedingly characteristic of the daily life of the Esquimaux, whether as hunter of the walrus, seal, reindeer, or ptarmigan, or in his domestic capacity, as, for example, instructing his children in the management of the kajak and use of the oars; and also with reference to the more important custom of cutting a circular piece of flesh out of the abdomen, immediately above the navel, which appears to be more for medical purposes than practised as a religious rite, or even as akin to circumcision. Two of the cuts refer distinctly to cannibalism—in one of them a man, with countenance distorted by rage and hunger, is gnawing the arm of a dead woman, while others of his household are seen huddled in a corner of the room, seemingly in an agony of terror and dread. We cannot connect this illustration with either of the legends; but the man-eater appears, from the affrighted looks of the witnesses, to be regarded as a kind of ghoul. The scientific value of these designs is certainly very great; for it may be questioned whether, if they had been drawn and cut by Europeans, the race-characteristics of the people would have been so excellently given. It is much to be desired that fac-similes of these illustrations should be given with the legends, if it is not found practicable to obtain the original blocks from Godhaab.

ON THE THINKING SUBSTANCE IN MAN.

By T. COLLYNS SIMON.

1. THE first principle of materialism is, that mind is something which depends for its existence upon matter—something which results from some of the combinations of which matter is susceptible; one of which combinations we find in the human brain, as some say, or, according to others, in the human blood; but although these and different other portions of the human body have at different periods been supposed to exhibit the requisite combination, I shall here, for the sake of brevity, speak only of the brain. This theory of course involves the supposition that, when the material combination alluded to ceases, the thing called mind ceases; that there is not really, with a distinct existence of its own in nature, any thinking thing whatever except matter so combined; and that what are commonly supposed to be the operations of an immaterial entity merely result temporarily in this way from peculiar forms of matter, just as any other secretion does; and it is held that our facts give us nothing more.

The opposite theory (called immaterialism, or anti-materialism) is that, besides matter, there is a second original entity or primary element in nature, under the name of "mind" or "spirit," and that this does not in any sense result from, or depend for its existence upon, matter; that from its own nature, as well as from the nature of matter, it would be physically impossible for it to do so.

To put the difference between these two doctrines briefly in other words, it may be stated that materialism represents the percipient element of animal natures as extended, whereas immaterialism undertakes to prove, with mathematical precision, that this element is unextended,—as completely unextended, in its nature, as an idea is.

2. And let me here observe what I think will be readily conceded, that no mere opinion, however probable, is on this subject of any value. This holds true of all questions in philosophy, as well as in science, but of none more than of the present one; and this is a point to which I would in an especial manner invite the attention of all thoughtful men. No amount of mere probability, however great, is, on either side, worth anything. We must here attend to facts only—either those facts of which every one of us is himself conscious, or those facts which scientific men have ascertained experimentally beyond all further room for controversy. The fact, the whole fact, and nothing but the fact, is the watchword of this analysis.

3. Every one of us is conscious that nature consists of what perceives and what is perceived. On this point there neither is nor can be the slightest doubt. The only question here possible is, are these two seemingly distinct things really two distinct things, or are they one and the same thing? Is the percipient an extended entity, and therefore material, or is it an unextended entity, and therefore immaterial? Is it the brain, or is it a spirit? That is what we have to determine.

4. The only definitions which I require to place before the reader are these two:—By the term “matter” I here only mean (as everybody means) that which is perceived under the condition of the senses, whatever that, upon analysis, may turn out to be; *i.e.*, whether that is found to be, in its nature, that which consists of phenomena, or that which consists of the causes by which phenomena are produced. And by the term “percipient element,” or “percipient,” I only mean that which perceives things, whatever that may turn out to be; *i.e.*, whether it turn out to be matter or not,—something material (like the blood, brain, etc.), or something immaterial, as a spirit is understood to be.

The main thing here then necessary is to exhibit exactly what we know beyond all room for doubt as to the nature of matter—as to the precise nature of that which we perceive under the condition of the senses. The reader’s own reflections will almost suffice to carry him through the remainder of the argument.

OF THE NATURE OF MATTER.

5. Now on this first point our data are these:—If you prick the optic nerve with a pin you produce no pain, but light and colour. If you prick the auditory nerve you here also produce no pain, but only a sound; and all the irritants applied to these nerves produce the same effects. In this way it is discovered that a flash of light is a sensation, that a colour is a sensation, and that a sound is a sensation; not, be it carefully observed, that we have a sensation of the cause by which the sensation is produced, nor that we have a sensation of any other thing beside the sensation, and which other thing we call “sound,” but that the sound itself is the sensation itself; nor, in the case of colour, that we have the sensation of the pin or other cause by which the sensation is produced, for we have not; nor that we have a sensation of any other thing in addition to the sensation itself, and which other thing we call “colour,” but that the colour itself is the sensation itself and that the sensation is the colour. When we speak of “the sensation of sound,” or “the sensation of colour,” the preposition “of” does not in such phrases

denote that the sensation *belongs* to the sound or to the colour, as so many writers seem to imagine, but that the two terms, "sound" and "sensation," are in apposition, just as when we say "to the number of twenty," "the name of Charles," etc., where we only mean the "number twenty," "the name Charles." The same is true of light. The colour, sound, and light, therefore, which we perceive under the condition of the senses are essentially sensations—things which are effects produced within us, but the cause of which we neither see nor hear—things which depend on conscious life, and which could not possibly exist except under the condition of such life.

Here then is an enormous fact with which very few people, except physiologists, are acquainted. All the light that there is in nature, whether sunlight, gaslight, candlelight, or moonlight, is dependent for its very existence upon conscious life,—upon something capable of perceiving it; a fact quite the opposite of that which any one could have expected. And this is true also of all the colours in nature,—all the colours of trees, and fields, and flowers, of the human body and of the human brain, of the blood and of the organs of sense, of birds and beasts, of streets and rivers,—in short of all material things. All colours are dependent, like sounds, not for their manifestation, as has been mistakenly imagined, but for their very existence, upon being taken cognisance of by something living; that is, they are sensations. And this is true of sounds also. All the sounds that we hear—the song of birds, the voice of man, railway noises of all kinds, and music of all kinds—are all of them pure sensations, effects produced within us, and clearly proved by physiological research to be so.

6. In this way we get by degrees at the nature of the different materials of which the external world is composed. But, as I have already said, it is not only by the prick of a pin that we can make the experiment that gives these facts. Anything which irritates the nerve of sight or of hearing will produce the same effects. In the case of the one nerve this effect will be sound, in the case of the other it will be light and colours. John Müller, M.D., in his admirable work on physiology, explains this vast fact with the utmost clearness and precision (p. 1059, etc.). Narcotics introduced into the blood will produce sounds, and colours, and light, as well as the prick of a pin will. So will also electricity when applied to the nerves I am now speaking of. And what is thus ascertained respecting sounds, and colours, and light is known also, and in the same way, to be true of smells of all kinds and tastes of all kinds. These are known to be sensations, things which can only exist in relation to

percipients; things which, although themselves unconscious, can exist only under the condition of conscious life.

7. Here the man of opinions encounters his first temptation. "It is evident (he says) that colours, sounds, and light would exist whether there were percipients or not; therefore it is my opinion that science must be in error when she makes out that they are sensations." Is he sure that this is the only alternative? Scientific men have never considered this opinion as evidence against the fact. We cannot, as I have said, afford to listen to mere opinions upon this subject. The facts are as I have stated them. Every one can ascertain this for himself. And it is not by denying them that we shall be able to deal with them. I shall nevertheless here observe, for the sake of the less experienced reader, that the solution of the alleged difficulty lies in the principle that things which can only have their being in relation to a percipient (as any one man's knowledge, for instance, on any one subject) exist, like the percipient itself, even when we are not conscious of their existence.

8. I said above that in this manner we get at the primary elements that enter into the composition of the external world. But it will be asked, how can the external world consist of such materials as sensations, since these are things which exist within our own bodies? This question is unobjectionable if it is asked for the purpose of information; but it is clearly not to be put forward as an argument to prove that experimental facts are not facts. I answer then, *first*, that whatever may be the consequences of the facts, we cannot avoid these facts. Every one has it in his power to ascertain that the facts are as I have stated them. No amount of supposed absurdity will justify us in abandoning the smallest of them. I answer, *secondly*, that we have no proof whatever, experimental or otherwise, that the sensation which attends the irritation of a nerve is a thing within the body, however large an amount of probability there may have formerly appeared in favour of that supposition. All that facts go to establish on this point is, that the sensation is only a thing *within*, or rather *dependent* on, the percipient element of our nature, whatever that may be. Before we are in a condition to affirm that the sensation is anything within the body, we must prove that the body itself, or some part of it, is the percipient; and this is what no one now pretends to prove, or even to suggest the slightest probability of. I answer, *thirdly*, that, over and above the consideration that the fact is one of consciousness, we have mathematical demonstration, which is the most incontestable proof that we can have of anything, that the green colour of a twenty-acre field, in the midst of which we are standing, is not a thing within the colours of our own

body, for the extent of this green colour is many times greater than the extent of the colours of our own body; and the greater cannot be contained within the less. We have, therefore, in this circumstance alone the clearest evidence that a sensation is not a thing within the body, but must depend upon some other sort of percipient—some percipient which can deal with all amount of extent that may be necessary, and which, therefore, must be itself independent of all extent.

9. I need not remind the reader that some partisans of materialism have endeavoured to get rid of the fact I now advert to, by saying that the twenty acres of green colour are not really outside the colours of the human body at all, but only *seem* to be outside them. On this point, however, I appeal to each person's common sense whether anything can be more obvious to our organs of sight than it is that the green colour of the trees and fields is not a thing within the colours by which our own body is delineated. Is there any man that is not a theorist who will pretend to say that the light which pervades a crowded ball-room, and the colours of the dresses, and the music, and the voices of those conversing, are all things within his own body—within the colours of his own body, and which have no existence in space external to his own body? and (equally preposterous) that the colours by which his own body is externally delineated are in reality things located within his nervous system and *behind* themselves? We have no alternative here in fighting the battle of truth but to appeal to men's ordinary understanding, and to that unsophisticated discernment by which we are able to distinguish between an angle and a line, or between a square and a triangle. Of course, to deny such distinctions is to deny even mathematical demonstration, and with denials of this order no reasoning can contend. According to the fact of consciousness, therefore, as well as those of science, our sensations are *portions* of the external world, that is, of the world that is external to our bodies, and not at all, as has been alleged by the parties alluded to, things existing within the precincts of our own bodies.

10. I have now to speak of the fifth class of sensations, viz., the sensations of touch, or the feels of things, such as a hard feel, a soft feel, a square feel, a round feel, and all that the blind man perceives of the material world, besides odours, tastes, and sounds. When the colour of our hand comes in contact with the colour of the table, a fresh sensation results; which, moreover, does not result when it is the colour of the chair which comes in contact with the colour of the table. This sensation, like all the others, is a thing wholly dependent on the percipient element of nature, whatever that may turn out to be, and is therefore often figuratively spoken of as being *within* it.

The following quotations from Müller's *Physiology*, although mingling the facts with hypotheses of his own, nevertheless fully recognise the experimental fact, that what we perceive under the condition of contact or touch are sensations only, and not, as was formerly imagined, the causes of sensations. When we feel the table, for instance, we do not feel the cause of what we feel, but the very thing itself which we feel; and that, even Müller fully explains, can only be a sensation. We see and feel sensations only; and not under any circumstances the occult stimulus or force which is supposed by Müller himself and by some other writers to give rise to them. Müller writes:—

"The sensation of touch in our hands makes us acquainted, not absolutely (immediately) with the state of the surfaces of the body touched, but with changes produced in the parts of our body affected by the act of touch." (P. 1068, Dr. Baly's translation.)

And again:—

"If we lay our hand upon the table we become conscious on a little reflection that we do not feel the table, but merely that part of our skin which the table touches." (P. 1081.)

This is what is meant by saying that we feel the table. We experience that sensation which attends the junction of two colours, one of which belongs to the table, and the other to our own body, *i.e.*, to the body which we *immediately* control. This sensation is evidently like colour and sound, a thing external to our own bodies. We are conscious that it is so. We are conscious that what we perceive in this way, whatever it is, is external to our own bodies; and from science we learn that what we thus perceive is not, as we used to imagine, the stimulus by which a certain sensation is produced in our nature, but only that sensation itself. No mere opinion that contradicts such facts can, I repeat, be listened to. Müller indeed is one of those writers who think that colours and sounds only *seem to us* to be outside the body, being, as they say, really within it; and, of course, he thinks the same of the tactile sensations. But I appeal to any one whether the feels of the table do not form part and parcel of the table as much as its colour does, and whether they are not at the same distance from the colour of his own body, as the colours of the table are.

11. It is not, however, only on the contact of external colours with the colours of our own body, that the tactile sensations are excited; for in the same way as various irritants acting on the nerves of sight and hearing are attended with the sensations called colour and sound, so if the nerves of touch be irritated we experience various feels. A narcotic introduced into the blood, for instance, produces the feel of ants creeping over the skin, and the gentlest contact of the finger with the electric chain will produce, upon some other portion of the

body, a feel of violent contact with something external, though nothing has been really in contact with the body in that part. In this manner we arrive at the clearest proof that feels, like colours, are things whose existence is only possible in relation to the living percipient element of animal nature (whatever the element may turn out to be) at the same time that they are also, like colours, part and parcel of the external world.

It is thus evident that all those things which we immediately perceive under condition of the senses are portions of the external world. Light and colours, feels, sounds, tastes, and smells are all pure sensations excited in our nature (not stimuli by which sensations are produced), and are all of them, therefore, what is understood by the term "phenomena."

12. There is, however, another class of phenomena of which I must now speak. The colours of a table have certain shapes and sizes so connected with them that when we see the one we see the other. These we call visible shapes and sizes. They are marked out and delineated by the colours; and if all colour were withdrawn from them all these shapes and sizes would instantly vanish, and what we saw would exist no longer. The feels also of a table, as well as its colours, have certain shapes and sizes in them. The blind man who has nothing to deal with that is extended except these feels, finds them to contain for him shapes and sizes as distinct as the colours by themselves do for us. These we call tangible shapes and sizes; and where neither feels nor colours exist, we have no shapes or sizes. It is utterly impossible for us to imagine a shape or size that is undelineated by anything whatever and equally impossible for us to imagine anything else that can delineate shape or size, except those feels and colours by which we find them delineated and marked out in nature.

13. Thus we see that the shapes and sizes of the external world are qualities or modifications inhering in feels and colours, and of course existing *with* these sensations which they modify, wherever and however these sensations exist; existing therefore in complete dependence, like them, upon something that perceives, and that is therefore conscious.

14. There are other qualities which are to be found in feels only, viz., solidity, weight, hardness, strength, etc. Some writers express themselves as if there were some sort of absolute existence for such things, and as if they did not really exist in, *i.e.*, were not really delineated and marked out by, feels. But very little reflection will convince us that this is not the case; nay, that it would be physically impossible for such things to have any such existence as this. A solidity that no one could possibly perceive under condition of the sense

of touch—a weight that is unattended with the slightest feel of any kind—a hardness, a strength, that no one could ever, under the most favourable circumstances, become sensibly cognisant of. What is the object of speaking of it as possible that such things should have a real existence or even an ideal one? They can clearly be nothing more than mere abstractions.

15. Other qualities are found in sounds, such as intermission and permanence, intensity and faintness. Some sounds are high, some low, etc. But there can no more be this intensity without the sensation called sound than there can be solidity without feel, or than there can be size or shape with neither feel nor colour.

16. Thus, then, we see that in material nature there is nothing whatever before us except sensations and their qualities, *i.e.*, qualified sensations, in groups or singly, and the various laws according to which these sensations or groups of sensations, so qualified, succeed or accompany one another. The sensations themselves and their attributes or qualities are now commonly and accurately spoken of as “phenomena” (a Greek term here denoting “sense-things,” or “things sensible”), and material nature as consisting wholly of these phenomena and their laws, as even Comte speaks of it; and this language we see is in strict accordance with the facts of physiology and the facts of consciousness.

17. The principles here explained were summarily stated as follows, by James Mills some thirty years ago, in his *Analysis of the Phenomena of the Human Mind* :—

“The primary importance to men of being able to make known to one another their sensations, made them in all probability begin with inventing marks for that purpose; in other words, making names for their sensations. Two modes presented themselves, one was to give a name to each single sensation. Another was to bestow a name on a cluster of sensations, whenever they were such as occur in a cluster. Of this latter class are all names of what are called *external objects*—rose, water, stone, and so on. Each of these names is the mark of as many sensations as we are said to *derive from* these objects. The name ‘rose’ is the mark of a sensation of colour, a sensation of shape, a sensation of touch, a sensation of smell, all in conjunction. The name ‘water’ is the mark of a sensation of colour, a sensation of touch, a sensation of taste, and other sensations, regarded not separately, but as a compound. . . . The occasions, however, are perpetual on which we need marks for sensations, not in clusters, but taken separately. And language is supplied with names of this description. We have the term red, green, hot, cold, sweet, bitter, hard, soft, noise, etc., composing, in the whole, a numerous class. For many sensations, however, we have not names in one word, but make a name out of two or more words. Thus, for the sensation of hearing, derived from

a trumpet, we have only the name 'sound of a trumpet.' In the same manner we have 'smell of a rose', 'taste of an apple', 'sight of a tree', 'feeling of velvet'. Of those names which denote clusters of sensations, it is obvious (but still very necessary to remark) that some include a greater, some a less, number of sensations. Thus a stone includes only sensations of touch and sight. 'Apple', besides sensations of touch and sight, includes sensations of smell and taste. We not only give names to clusters of sensations, but to clusters of clusters, that is, to a number of minor clusters, united into a greater cluster. Thus we give the name 'wood' to a particular cluster of sensations, the name 'canvass' to another, the name 'rope' to another. To these clusters and many others, joined together in one great cluster, we give the name 'ship'. To a number of these great clusters, united into one, we give the name 'fleet', and so on. How great a number of clusters are united in the term 'house'! and how many more in the term 'city'! (vol. i, p. 91). And again, in using the names tree, horse, man, the names of what I call objects, I am referring, and can be referring, only to my own sensations (and to other people's sensations); in fact, therefore, only naming a certain number of sensations, regarded as in a particular state of combination; that is, in concomitance" (p. 71).

18. I admit that a few metaphysical theorists whose hypotheses, respecting an occult matter, these facts entirely subvert, assert, without any explanation, that phenomena are not real things—that the real things are those occult ones, which they suppose, and from which they say, that phenomena are derived as from their causes, and that the real material world is one utterly inaccessible to the senses. These theorists are they who consider that the noise which we hear in the street is not really in the street at all, but only *seems* to be there, and is really only within the precincts of our own head; and that the colours which we see around us in nature are not really outside those by which our own body is delineated, but only seem to be so; which doctrine they hold to such an extent as to consider that all the colours which we see in a room disappear as soon as we go out of it. But on all these points I appeal from these metaphysicians to the common understanding of mankind. Can anything, I ask, be more real than a violent toothache, although, in its nature, it is purely a phenomenon? Hardness and weight are also, as has been seen, pure phenomena. What is the meaning of saying that these are not real things? As to the alleged occult causes of our sensations, let me ask, When we eat bread are we eating what we feel and see, or only the occult cause of what we feel and see? and as to the theory that the colours leave the objects when we leave the room, are we not as conscious, I ask, that they do not do so, as we are that the colours are there when we are present? All these are facts of which we are conscious; and is it not unreasonable to deny these for the sake of this hypothesis about

occult matter, whose advocates do not even profess to assign any one single ground upon which they can maintain it? As, however, one or two distinguished physicians seem to favour these metaphysics, in some at least of the expressions which they employ, I repeat the following reflections which require to be carefully taken into account in connection with the hypothesis in question:—1. In objects, we *see* only qualified sensations, and never the causes of what we see; and we *feel* nothing except qualified sensations; we never feel the causes of what we feel. 2. When we say that we see the same object which we feel, or that we feel the same object which we see, we only say that we see the colours of a group of which we also perceive the tactile sensations, or that we perceive the tactile sensations of a group in which we likewise see the colours. 3. Whatever the insensible cause of these sensible effects may be, it is something, in its nature, totally unlike any of the effects which we seek to account for by supposing it, since a sensation cannot possibly be like anything that is not a sensation.

OF THE NATURE OF THE PERCIPIENT.

19. I have thus far spoken only of the nature of the material and external world,—of that world, I mean, which we can see and feel; and I have shown, I trust, clearly both from what science teaches and from what we are conscious of, that the brain as well as the rest of the nervous system, and the organs of sense and the blood and the whole human body consist of phenomena and not of the cause of phenomena,—consist entirely of sensations and their qualities grouped together in these various ways, and to no extent whatever of any unseen stimulus, agent, or irritant, by which these effects are produced.

20. The next point is, what is the proof that all the percipients in nature are unextended? That there are percipients in nature, of some kind, needs, as I have said, no proof. We are as sure of that as we are that there is anything for us to perceive. The whole question here, therefore, is only this, what is the proof that the percipient, in each case, is unextended? I answer (as the reader will now himself be able to answer) because the percipient is not any one or more of its own sensations; and size (or extent) is not only *not* known to exist in nature, except as a quality or modification inhering in some of our sensations, but is utterly impossible to conceive as existing in nature in any other way except thus marked out and delineated by some feels, or by some colours,—as impossible as it is to conceive roundness existing in nature without anything round. As the percipient cannot, therefore, be either a sensation or a group of sensations, it would be physically impossible for it to be extended.

21. The same question may be put otherwise, and otherwise

answered. What, it may be asked, is the proof that the brain (or the blood or any other portion of the body) is not the percipient element in animals? This question also, the reader will now be able to answer for himself. The brain, contrary to men's ancient notions, is proved by the facts of physiology to be a phenomenon, or a group of phenomena, or a "cluster of sensations," as James Mill calls it; and it is quite clear that such a thing cannot see anything or feel anything, or in any way perceive anything, being, in its nature, only that which something else—something conscious—can perceive. To consist of sensations, and to experience sensations constitute two very different relations to one and the same thing (*viz.*, to the sensations). One is the relation of the group to its parts; the other is the relation of the percipient to the group. While it was thought that a felt and coloured object like the brain was of a nature that might think and feel and see, it was for many reasons probable and perfectly natural to suppose that the brain did so; but now that this is known from physiological research not to be the case—now that we know the brain to consist of phenomena only—elements which preclude all possibility of its feeling or thinking, we are constrained to admit that the brain cannot be the percipient; and as the same reasoning applies to the blood and to every other portion of extended nature as well as to the brain (*i.e.*, since every portion is a phenomenon), we learn at once that nothing material or extended can in the nature of things be the percipient; in other words, that the percipient, in all animal natures is unextended and immaterial.

22. I may add here as a third argument equally conclusive, upon this point, that to which I have already above alluded; *viz.*, that the twenty acres of green colour (which colour and its size are known to be phenomena) could not possibly subsist within the six feet by two of colour, which appertains to our own bodies, even if our bodies were of such a nature as would enable them to perceive a sensation; which, however, it has been shown that they are not. In other words—over and above the fact that the whole body, as well as every part of the body, is a phenomenon, and therefore incapable of experiencing sensations at all, we thus see, with mathematical precision, that, even if it were not so, the body could not be the percipient of the feels and colours in which size exists, and also that the percipient in nature must of necessity be something wholly independent of and irrespective of size.

23. I do not deny that to persons accustomed to think only of things coloured and things felt; *i.e.*, of things in some way or other extended, it may be at first attended with some difficulty to think of a real thing as being unextended—as unextended as a mathematical

point. But, on reflection, we shall see that there are many such realities in nature. Deep sorrow, for instance, is one of these. It is completely unextended, yet completely real. Our knowledge upon any subject is unextended in this sense (*i.e.*, it occupies no space), and so is an idea of any kind; yet knowledge and an idea are, nevertheless, very positive things and very real things,—as much so as any that have measurement of pint or inch or ounce connected with them.

24. I undertook to prove that animal natures consist as much of unextended percipients as they do of extended perceptions, and that the two classes of things cannot possibly be mistaken for one another. It is for the reader to determine whether this has been done. And, above all things, let us have among all classes of thinking men the thorough discussion of the question which a few influential critics have, to some extent, succeeded in repressing. There can be no doubt that (as they thus unconsciously admit) discussion—full and free discussion—is all that is necessary to the clearing up and recognition, even by themselves, of the vast fact here indicated in the Natural History of Man.

LACUSTRINE HABITATIONS AND PRIMÆVAL ANTIQUITIES.

I.

THE physico-mathematical class of the Imperial Academy of Vienna having resolved to establish a special commission for the investigation of lacustrine habitations (meeting July 21st, 1864), Professor Kner was appointed commissioner for Upper Austria, Professor von Hochstetter for Carinthia and Carniola, and Professor Unger for Hungary. These gentlemen reported the results of their investigations in the academical meetings of October 20th, November 3rd, and December 1st, 1864.

1. *Carinthia and Carniola*.—Notwithstanding the uncommonly high level of the waters, in consequence of the continued rains in the summer of 1864, Professor von Hochstetter succeeded in stating the existence of fragments of pottery, hazel-nuts, bones, and other traces of human settlements on the banks of the lakes of Keutschach, Wörd, Raurshelen, and Ossiach, in Carinthia. Only the first of these four lakes admitted special investigation. Nearly in its centre is a shallow place, generally four to six feet under water, and ten to twelve feet deep after protracted rains, on whose ground a number of stalks are seen, from between whose interstices half-carbonised

shells of hazel-nuts, fragments of half-hardened clay, charcoal and plenty of broken shells of *Anodonta* have been dredged out. M. Uelegitsch, who subsequently investigated this place by diggings, soon found there a considerable quantity of fragments of black pottery, with peculiar zig-zag ornamentation, half-hardened lumps of clay (apparently forced in between two sticks), a whetstone, a round plate of mica schist, and a fragment of stag's horn. Long before these diggings, remains of the stone and bronze ages had been discovered in Carinthia and Carniola. In summer 1864, black pottery and a good number of uncommonly well-preserved Celtic bronzes (cups, scythe, knives, chisels, ornamental clasps, etc.) have been found at Heidach, Carinthia. In 1857, the digging out of a draining-ditch through the swamps near Laibach, Carniola, had brought to light several tools made of stag's horn, a stone with a hole drilled in it, and a trunk of a large tree excavated into a *canoe*, as they are still in use on the lakes of mountainous regions. Other localities have given only negative results. The pretended remains of lacustrine habitations in the White Lake, Carinthia, are in fact of comparatively very new origin, being remains of constructions made for the purpose of trout-fishing, which was extensively practised there before and during the sixteenth century. The stalks in the south-eastern bay of the Lake of Firknitz, Carniola, are (as is proved by historical documents) nothing but remains of a long ago decayed bridge.

2. *Upper Austria.*—The same circumstances which had acted as obstacles to Professor Hochstetter's investigations in Carinthia and Carniola proved likewise unfavourable to those of Professor Kner in Upper Austria. The Lake of Seekirchen or Waller is in its physiognomy strikingly analogous to the Lake Pfefficon, in Helvetia, and the peat-bog connected with it may be supposed to contain remains of lacustrine habitations. The Lake of St. Wolfgang is anything rather than promising in this respect, except perhaps next to Strobl. The Lake of Atter may entitle to better prospects, the configuration of the island Litzelsberg in it being very analogous to the Isle of Roses, in the Lake of Starnberg, Bavaria. Litzelsberg has been inhabited at a very early period, and is surrounded with several hundreds of stalks, among which some may be of very ancient date, at least of the bronze age. Several hundred of seeming stalks, discovered in the Lake of Mondsee, were at first thought to be the remains of lacustrine habitations. A nearer inquiry proved these pretended stakes to be the remains of powerful *caks*, rooted in a portion of the lake's ground, which must have been once dry land. The lake is proved by documents and traditions to have considerably lost in surface in the course of the last centuries; the submersion of this tract of once dry land

can therefore only be explained by the supposition of a change of level of the present lake bottom having taken place at a very remote (perhaps pre-historical) epoch. The same circumstance has been observed in the neighbouring lake, near Fellam Moos, only the trunks of the oaks are better preserved. Pointed stalks have been found between their roots, but there is no reason for supposing them to be coëval with the oaks, which grew on this spot when it was still dry land.

3. The investigation of the large Hungarian lakes, Balaton and Musidel, have given merely negative results. The first and largest of them is but shallow and very variable in its level; only its south-eastern border, along which a railroad is running at present, may have been in some way fit for lacustrine settlements. Since the draining operations ordered by Emperor Galerius, in the fourth century, the level of the Balaton has been continually lowering, and cultivable grounds have more and more extended on its expanse. Since 1853 a continuance of dry years has lowered the level at the rate of six feet, and the Sis-Sarvez Channel, opened in 1863, has again taken away one and a half to two feet. Notwithstanding this diminution, no traces of lacustrine habitations have been found out at any point of its banks. If such establishments have ever existed there, they must have left vestiges on the dry land, which was once part of the lake's bottom; but even there, although the ground had been necessarily moved by agricultural labours, channel digging, etc., no such vestiges have ever come to daylight. The lake of Neusiedel, now rapidly drying up to a mere swamp, has proved equally unproductive in this respect.

11.

Professor L. H. Jeitteles has presented the museum of the Imperial Geological Institute with a series of objects, found by him in an ancient peat-bog, recently laid open by diggings within the precincts of Olmitz (East Moravia). These objects are: 1-5 and 5a. Bones, out of which the marrow had been extracted. 6. Fragment of the lower jaw of *Bos sp.*, with the alveolar cavity broken up. 8 and 9. Fragments of lower jaw of *Sus sp.* (?) (certainly neither from the wild boar nor from the marsh-hog). 9a. Fragment of a bone of marsh-hog (?). 10 and 11. Nuclei of the horns of *Bos sp.* (?). 12. Metatarsal bone of a ruminant, with traces of human workmanship. 13 and 14a. Molars of *Equus sp.* (?) 15 and 16. Fragments of graphite pottery. 17. Stag (15-17, out of the peat-bed). 18. Fragment of peat. 19. Fragment of leather, and 20, carbonised wood out of the peat-bed. 21. Nucleus of a horn of (?) 22. Molar of *Bos primige-*

nus (?). 23. Piece of smelted bronze. 24. A bundle of vegetable fibres, undoubtedly prepared for tissues (fibres of flax and hemp have been found in the lacustrine habitations of Switzerland). 25. Carbonised cereals out of the peat-bed. 26. A whetstone from the same bed. 27. A fragment of pottery. 28. Peat with fragments of charcoal, probably originating from the superficial burning down of the peat-bed. 29. The photograph of a human skull, found out in the peat, together with other portions of the human skeleton.

Subsequently, Professor Jeitteles submitted another series of similar objects to Dr. Keller, President of the Zurich Archæological Society, and the first discoverer of the Swiss lacustrine habitations. Among them must be remarked: 1. A fragment of stone with traces of polishing, probably the fragment of a rather voluminous tool. 2. An earring, as they are found of the same shape in lacustrine habitations and tumuli. 3. An axe made of bone, probably of a very large animal, perhaps the urus (?), differing in nothing from those found in lacustrine habitations. 4. Wheat (two varieties) and corn—this last not yet known to have occurred in Switzerland. (*Imp. Geological Institute—Meetings Aug. 16, and Nov. 8, 1864.*)

III.

Dr. Haupt, keeper of the museum of the Clerical Seminary at Bamberg (Franconia), has lately discovered in the immediate vicinity of this city, a stratum with human remains, lying between ten and fourteen feet beneath the present surface of the soil, and overlaid by a bed of peat covered with alluvial sands. The stratum in question is a black, bituminous earth, filled with bones of bovine and cervine animals. Amidst them lie scattered human skulls and bones; fragments of pottery and glass: some bronze objects; two large idols of Reugier sandstone, of very rude workmanship, one having but four fingers on each hand; and two large trunks of trees excavated into canoes, and still containing part of their ballast, consisting of fragments of rocks known to occur around Bamberg. These canoes are the best proof of an ancient lake-basin, whose banks had been inhabited, having once occupied what is at present the valley of the Mein. Many of the bones in question are sawn asunder lengthwise. Among them have been found a *Strombus** of a recent species, and a perforated *Cardium edule* (probably procured in way of exchange-trade); and, among other vegetable remains, a great number of hazelnuts. Subsequent diggings have proved the stratum in question to be very extensive, and to be everywhere immediately overlaid by peat, and, above this, by alluvial sands. (*Imp. Geological Institute—Meeting Dec. 6, 1864.*)

PROCEEDINGS OF THE ANTHROPOLOGICAL SOCIETY
OF PARIS.*

BEFORE the discussion "On the Origin of Indo-Europeans" commenced, M. d'Omalus d'Halloy offered some observations on the reasons which induced him to adopt opinions opposed to those generally received. He professed to belong to that school which ascribed the greatest influence to the action of external agents on all living beings; he believed that these had given rise to all the changes made known to us by the study of palæontology. On the other hand, he thought that, since the last geological revolution, the influence of the external agents is not sufficiently potent to produce the differences now observed in the various races of mankind; in other words, these differences are the results of an order of things different from that now existing.

As regards the questions of the monogenism or polygenism of the genus *Homo*, he considered them, in the present state of our knowledge, altogether beyond the reach of natural science.

M. Chavée: Our honourable colleague wishes to exclude the consideration of monogenism and polygenism; but it is just upon this point that I contest M. d'Omalus' opinion. In declaring that the question of the original unity or plurality of the human race is beyond the reach of natural science, he forgets what linguistics have accomplished in the domain of anthropology, and that philology is a natural science. What has philology done? It has studied the phenomenon of language like any other physiological act, and perhaps by a more rigorous method than is applied to other branches of natural history. It has proved that the languages now spoken present vestiges of phonetic changes which constitute veritable diseases; and, in tracing them back, we have become acquainted with the pathological laws, and the primitive, normal, and perfect form, of which our languages are only the altered products. This primitive form, as regards the peoples of our race, is the Aryan, from which the Sanscrit, the Zend, the Greek, the Latin, the Lithuanian, and the Gothic are only the derived forms. Setting aside the Aryan, Semitic, and Tatar languages, I do not think that philology is sufficiently advanced to affirm anything; but within the limits of these languages we are, thanks to labours of Grimm, Bopp, Benfey, Pott, and other living linguists, enabled to demonstrate, not merely that the assimilation of the Aryan

* [Continued from p. 21, No. VIII.] Séance du 18 Février, 1864. Discussion sur des origines Indo-Européens.

to the Semitic language is impossible, but, as different effects cannot be produced but by different causes, it cannot be that the Semitic forms are the work of a race resembling the Aryan race." After showing by some illustrative examples that the Semitic and Aryan languages are radically distinct, he concludes in the following terms: "Every language is the spontaneous product of the cerebral organism; and whenever I see two radically distinct languages, distinct in their phonetic elements, *i. e.* in their anatomy, distinct in their grammatical construction, *i. e.* in their physiology, I am authorised to infer that the organisms which have produced these languages are also radically distinct. For these reasons, I am opposed to the opinion of our learned colleague M. d'Omalius, who sustains that questions of origin are, in the present state of our knowledge, beyond our reach. These questions have, on the contrary, in my opinion, long been solved by philology."

M. d'Omalius, in reply, said that he used the terms polygenism and monogenism for the express purpose of eliminating them from the present discussion, being of opinion that they had no direct relation to the questions proposed. It did not follow that, because the same language is spoken in different parts of the globe, the peoples employing it are of the same origin. In Bactria were found the remnants of a lost language, which, though reposing upon the same basis as our own languages, is said to be greatly developed and more perfect. Is there more reason to suppose that the European languages are derived from this Aryan source, than to maintain just the contrary, namely, that this Aryan language represents a degree of development of languages imported from Europe? This is the whole question which philology has to solve; it is upon this point that he asked for facts.

M. Broca said, that he had listened with great interest to M. Chavée's exposition of principles which he had himself long adopted, though on different grounds. Still, he shared the opinion of M. d'Omalius, that polygenism and monogenism should be excluded, in order to circumscribe the debate; he would even still more restrict the discussion, by distinguishing in the propositions of M. d'Omalius two very distinct questions: (1) Whence came the races now peopling Europe? and (2) Whence came the languages now spoken in Europe? These two questions should, in his opinion, be examined separately; not merely because those who have studied the first question may not have studied the second, but because they will probably not yield identical solutions, or may even become contradictory. Whence, in fact, came the races now peopling Europe? from Europe. Whence came the languages spoken in Europe? from Asia. He could not, therefore, assent to

a doctrine which, starting from a complete assimilation of languages and races, lays down as a principle that the conformity of a language indicates the unity of stock. . . . It is for philologists to demonstrate in what manner the Asiatic languages propagated in Europe. Excepting the Fins, the Magyars, the Turks, the Basques, and the Laps, all the peoples in Europe speak languages belonging to the same family. There were thus hundreds of millions of men using the same idiom, presenting at the same time considerable anatomical differences. In the South we find the Greeks, the Italians, the Spaniards; in the North, the Scandinavians, Germans, Slavonians, Anglo-Saxons. Among these races we find tall, short, and middle-sized tribes; here with flaxen, there with brown hair. There is great variation in the colour of the iris and of the skin; and these races form innumerable combinations. The craniological characters and the facial proportions also permit the formation of groups sufficiently distinct, not certainly to form *types*, but sufficient to form different *races*. Whence came these distinctive characters? If it be assumed that one people only colonised Europe, we ought to find a certain relation between the media and the differential modifications. But this relation does not exist. In Ireland we see individuals with brown skin, brown hair, brown eyes, short stature, seemingly belonging to the primitive race of Europe, living side by side with individuals with light hair, fair complexion, and of tall stature. In Greece we find the analogues. These facts are so evident and incontestable, that we are authorised to repudiate, as contrary to the anthropological geography of Europe, any interpretation tending to establish the ethnic unity of that part of the world. The peoples which came from Asia belonged to a dolichocephalic race; but on their arrival in Europe they found at least two races, one brachycephalic, and the other dolichocephalic, which is demonstrated by human remains found in the most ancient graves. Who can say that in those remote times the differences now obtaining between contemporaneous races did not exist? M. Broca concluded thus: "For my part, I am of opinion that the Asiatic invaders found themselves face to face with a human Fauna which, though not in its details, yet in its *ensemble*, did not essentially differ from its actual condition. On the whole, I so far agree with my venerable colleague M. d'Omalius, that the inhabitants of Europe are pretty nearly the same now as they were at the period of the Asiatic emigration; but, as regards the Indo-European languages, I believe that there exist good reasons for assuming that they have travelled from the East to the West."

M. Bonté said that he did not deny that the Greek, German, Celtic, and Slavonian languages were derived from the Aryan, that fact being

proved; but he must protest against the principle of basing anthropology solely upon linguistics, and to consider, as M. Chavée has done, language as the most reliable criterion for ascertaining the race. This assertion formed no part of the questions put by M. d'Omalus, who simply asked whether the peoples called Indo-Europeans came from Asia, or whether they did not, on the contrary, proceed from Europe to Asia. He protested against the assertion of M. Chavée, and he assigned to languages a secondary rank. After citing a number of instances of peoples having changed their respective languages, M. Bonté said, all this proves that there exists no sufficient reason for giving to language the preference over physical characters. Is it, moreover, rational, when man is to be classified according to his physical character, to prefer the work of man to man himself? To put this question is at once to answer it.

M. Bertillon remarked, that M. Broca had advanced the theory that, before the Asiatic immigration, the European races differed very little from the living races: and that the unity of the European languages had been the result of this Aryan contact, which was, however, not sufficiently potent to alter the anatomical types. In order to appreciate the probability of such a doctrine, we must study the history of the Aryan migrations in India, where we find two types—the Brahmins, or the conquerors, and the Sudras, or the vanquished; though both races speak the same language, their types have remained distinct. In Europe, on the contrary (excluding the Semitics, who are but few in number), we are struck by the great unity, not only as regards language, but as regards all psychological characters influencing civilisation. Again, M. Broca tells us that the Asiatic invaders were dolichocephalic. Do not the majority of Europeans possess the same character? Now, to realise such a uniformity, the Aryan blood must have been largely infused into Europe. It must be admitted that the languages at present spoken have not all altered in the same degree; thus the Lithuanian is said to be nearly pure Sanscrit. It might be interesting to ascertain whether this phenomenon is not owing to a numerical superiority of the conquerors. The Western languages of Europe are, according to M. Chavée, singularly corrupt. M. Bertillon would, therefore, put the question to philologists, whether languages do not alter by the intermixture of vocables, in the same way as the physical forms alter by the intermixture of blood?

The President here interposed, and requested the speakers to confine their strictures to the questions proposed, touching the hypothesis of the Asiatic origin of the peoples of Europe, and the inflected languages.

M. Gerard de Rialle said that he would only touch upon the second

question, namely, whether the inflected languages had been imported from Asia into Europe, or whether Asia received them from Europe. It may, for the solution of this question, perhaps be sufficient to examine which of the languages derived from the Aryan are least modified; and these must be supposed to be nearest to the spot of origin. Such languages are the Zend and the Sanscrit, the roots of which have been reconstituted partly by the labours of M. Chavée. The old Persian and the old Hindoo are found in Asia; and this fact appeared to him to dispose of the question of origin. The deformation of languages seemed to him to indicate the distance of their origin. Thus the deformations of the Celtic, Germanic, and Slavonian languages, prove that they had for a long time lived amid physical media different from those in which they were originally developed.

M. d'Omalus d'Halloy: In the observations of M. Broca, I find but few, or rather no answers to my theory. He recognises that peoples existed in Europe before the arrival of invaders whom he terms Asiatics; these peoples, which had, in his opinion, black hair and black eyes, were vanquished by the peoples with blue eyes and light hair, who came from Asia. Now, this is precisely my question: What is the foundation for the prevalent opinion concerning the Asiatic origin of the latter? It is pretended that there are in Asia light-haired races; but when they are sought for, they cannot be found. Fair-complexioned peoples, small in number, are stated to exist in a small spot of the Himalaya, the Siaposh, for example, or the Ossetines in the Caucasus, who might well have descended from Europeans. The Chinese historians speak, it is true, of a people with green eyes and red hair; but these populations belong to a reddish type, and should not, in my opinion, be confounded with the light-haired type. On the other hand, we find, as far as history reaches, fair-complexioned peoples in the centre of Europe; and I am inclined to think that they were there from the remotest antiquity. These bellicose and conquering peoples of Germany, called the *officina gentium* by the ancients, have spread their conquests to considerable distances. No facts have been cited except the inferences from linguistic facts. Now, with all respect for that science, I cannot accord to it the privilege to dominate in anthropology above what I call the natural characters; the language of a people may change entirely, and examples of it are common enough. Let me only cite that of the French, who are neither Franks nor Romans, though some small portion of Roman blood may have been infused into the constitution of the French nation. It has also been asserted that, the languages of Bactria being purer than ours, they must be nearer the cradle of our race. I repeat that the fact of the superiority of the Aryan does not

appear to me to lead to that theory. A well developed language does not indicate the vicinity of the birthplace of a race ; it merely indicates the civilisation of the people speaking it. Now, on the hypothesis of the European origin of the Aryans, what is there astonishing in it that India, in the vicinity of Semitic civilisation, should have reached a high degree of perfection, whilst such peoples as remained in Europe conserved an inferior language ? Bearing in mind what the Latin historians said of the Germans at the time of Tacitus, how can it be sustained that they had *descended* from the Aryans of India, who possessed so perfect a language. I maintain, therefore, that the argument drawn from the perfection of the Aryan language, so far from supporting the hypothesis of the Asiatic origin of Europeans, is rather in favour of the opposite hypothesis.

M. Chavée replied that he never denied that a conqueror might impose a new language on a country. In citing Herodotus, St. Jerome, and Tacitus, the facts were, so to speak, of yesterday. The formation and organic development of languages belong to more remote periods. In the Rig-veda we possess a precious philological document belonging to a period at least 14,000 years before our era, setting aside the first code of Manou about 13,900 before our era. With history commences the corruption of languages, nay, they are then already corrupt ; they degenerate according to laws formulated by science, and these laws may be applied to the comparison of the sister languages. . . . His opinion, in short, was, that organisms in a morbid state are derived from healthy organisms ; but the reverse never occurs.

M. Rameau contended that the propositions of M. d'Omalus are not equally applicable to all Aryan peoples. What is the general opinion touching the races of Europe ? That there existed at a remote period a primary stock, composed of Basques, Fins, and Iberians ; then arrived the invaders—the Celts from the North, the Pelasgi from the South ; then came the Germans, the Scandinavians, the Getæ ; and finally, the Scythians. From this *ensemble* of ethnic elements should be eliminated such whose origin is incontestable, namely, the Basques, the Iberians, and the Scythians ; the question is then already simplified. We are in possession of historic documents as regards the Goths, the Alani, the Cimbri, and the Teutons, the first invasion of whom was repulsed by Darius. The Asiatic origin of the German stock is not much disputed ; what, then, remains to be discussed ? The Celts and the Pelasgi ; but, as the Asiatic origin of the Pelasgi is undoubted, there remained only the Celts, to the origin of which, in M. Rameau's opinion, the discussion should be confined.

M. Broca feared that he had badly expressed himself, as M. d'Omalius understood him to say that he considered the first Asiatic invaders to have been fair complexioned, and that the light haired Europeans were their descendants. He had stated, on the contrary, that before the first invasion the repartition in Europe of fair and brown individuals was in its *ensemble*, though not in detail, probably little different from what it is now.

The discussion was then adjourned.

FAREWELL DINNER TO CAPTAIN BURTON.

ON Tuesday, April 4th, 1865, there was celebrated an event in London of such importance to anthropological science as to deserve an especial record in these pages. On this day the Anthropological Society of London celebrated the election into their society of five hundred Fellows, by giving a public dinner to Captain Richard F. Burton, their senior vice-president. What took place on this occasion should be made known as widely as possible, as we think it cannot fail to have a beneficial influence on the progress of anthropological science in this country. The Right Honourable Lord Stanley, M.P., F.R.S., F.A.S.L., took the chair, and was supported on the right by Captain Burton, Arthur Russell, Esq., M.P., J. A. Hardcastle, Esq., M.P., General Sir Trevor Phillips, W. S. W. Vaux, Esq., R. Bagshawe, Esq.; and on his left by Lord Houghton, Dr. James Hunt (President of the Anthropological Society), Viscount Milton, Sir G. Synge, Bart., and Mr. George B. Mathew, H.M. Minister to Central America.

At the end of the four tables there presided Mr. J. Frederick Collingwood, V.P.A.S.L., Dr. Berthold Seemann, V.P.A.S.L., Dr. R. S. Charnock, Treasurer A.S.L., and Mr. George E. Roberts, Hon. Sec. A.S.L. Amongst the company we noticed present were the

Rev. Henry F. Rivers
Rev. Harry Tudor
Rev. Maurice P. Clifford, D.D.
H. G. Atkinson, Esq., F.S.A., F.A.S.L.
S. E. Collingwood, Esq., F.G.S., F.A.S.L.
George North, Esq., F.A.S.L.
L. O. Pike, Esq., M.A., F.A.S.L.
J. Reddie, Esq., F.A.S.L.
H. Brookes, Esq., F.A.S.L.
E. Hart, Esq., F.R.C.S., F.A.S.L.
E. Bellamy, Esq., F.A.S.L.

A. Swinburne, Esq., F.A.S.L.
E. Tinsley, Esq., F.A.S.L.
Captain J. Hastie, F.A.S.L.
C. Brett, Esq., F.A.S.L.
N. Trübner, Esq., F.A.S.L.
W. Pinkerton, Esq., F.S.A., F.A.S.L.
H. W. Jackson, Esq., F.A.S.L.
R. B. N. Walker, Esq., F.A.S.L.
H. Hotze, Esq., F.A.S.L.
A. Hector, Esq., F.A.S.L.
G. Dibley, Esq., F.A.S.L.

F. Braby, Esq., F.G.S.	A. Wilson, Esq.
M. Paris, Esq., F.A.S.L.	Captain O'Kelly
C. Carter Blake, Esq., F.G.S., F.A.S.L.	E. Charlesworth, Esq., F.G.S.
J. Moore, Esq., F.A.S.L.	H. W. Bates, Esq., Assist.-Sec. R.G.S.
R. Arundell, Esq., F.A.S.L.	R. H. W. Dunlop, Esq., C.B.
H. Butler, Esq., F.A.S.L.	H. Wood, Esq.
S. Courtauld, Esq., F.A.S.L.	A. Dick, Esq.
C. Harecourt, Esq., F.A.S.L.	A. C. Finlay, Esq., F.R.G.S.
Lieutenant Arundell, R.N.	W. Mathew, Esq., H.M. Minister to
J. Meyer Harris, Esq., F.A.S.L.	Central America
Dr. Dickson	John Watson, Esq.
W. Fothergill Cooke, Esq., F.A.S.L.	H. Camplin, Esq.
J. Rae, Esq., F.A.S.L.	E. Dicey, Esq.
G. C. Rankin, Esq., F.A.S.L.	H. K. Spark, Esq.
W. Chamberlin, Esq., F.A.S.L.	G. F. Aston, Esq.
Wentworth Scott, Esq., F.A.S.L.	W. H. Mitchell, Esq., M.A., F.A.S.L.
Dr. J. F. Caplin, F.A.S.L.	Hon. E. T. O'Sullivan, F.A.S.L.
C. Stenning, Esq., F.A.S.L.	Colonel Richards
E. Owen Tudor, Esq.	J. McDonald, Esq.
E. Wilson, Esq., F.A.S.L.	Captain Rankin Hutchinson, F.A.S.L.
A. Spowers, Esq.	Samuel Lucas, Esq., M.A.
N. J. Bagshawe, Esq.	J. N. Lockyer, Esq., F.A.S.L.
Dr. Bird	Mr. Ayres, etc.

The following gentlemen we understood had taken tickets, but were unable to attend:—

W. Stirling, Esq., M.P.	Colonel Showers
Sir Andrew Smith, C.B., F.A.S.L.	W. Salmon, Esq., F.G.S.
Sir George Denys, F.G.S.	Sutherland Edwards, Esq.
Dr. W. H. Russell	Dr. J. Kirk
W. G. Smith, Esq., F.A.S.L.	W. Wilson, Esq.
J. W. Conrad Cox, Esq., B.A., F.A.S.L.	C. Blake, Esq.
W. Travers, Esq., F.R.C.S., L.R.C.P.	J. M. Hepworth, Esq., F.A.S.L., J.P.
	H. Gooch, Esq., F.A.S.L.

Apologies for not being able to attend were received from Viscount Palmerston, Earl of Clarendon, Lord Malmesbury, Viscount Strangford, who said that in his opinion Captain Burton was "the most distinguished traveller of modern times;" Lord Egerton, Lord Clifford, Sir Charles Wood, Bart., Mr. Whiteside, M.P., Sir R. Gerard, Bart., Sir Charles Nicholson, Bart., Sir R. I. Murchison, K.C.B., Professor Owen, Mr. Henry Reeve, Major-General A. Scott Waugh, Colonel Stanley, Dr. Livingstone, Rev. Dunbar I. Heath, Mr. Oliphant, Dr. A. Barton, Rev. W. Monk, Mr. C. Robert des Ruffières, Major-General Hodgson, T. King Watts, Esq., F.A.S.L., Rev. Henry Clare, F.A.S.L.

The Noble CHAIRMAN, in proposing "The health of the Queen," remarked that the reign of her Majesty had been memorable, not only as one of peace and prosperity, but of geographical discovery, and if her Majesty lived as long as they all hoped she would do, there would at the close of her happy reign be no portion of the habitable globe the general outlines of which would not be known to the civilised world. There was only one drawback to this, and it was that posterity would be deprived of one of the keenest sources of intellectual pleasures of the present day—that connected with the progress of discovery. That, however, was a matter which they

might fairly leave to posterity, and no doubt they would think themselves very much better fellows than those who had preceded them.

The Noble CHAIRMAN, in proposing "The health of the Prince and Princess of Wales," said that he did not know whether the Prince was a devoted student of anthropological science, but he was quite sure he ought to be, considering the probability that he might at some distant day be called to rule over an empire which included within it types of all classes and races of men.

The Noble CHAIRMAN, in giving the toast of "The Army, Navy, and Volunteers," declined to express any opinion as to the valour and skill of those services, as it would be time enough to do so when anybody disputed it. Man appeared to be a fighting animal. (A laugh.) He took to it kindly, and from all that he could see he believed man would go on fighting to the end. (A laugh.) It was on account of the services which they had rendered to the cause of geographical and other sciences that he proposed the army and navy, and his lordship enumerated the names of a number of distinguished men who, by their conduct and exertions, had done much to promote the progress of discovery in various parts of the world.

The toast was duly honoured, and acknowledged by General Sir TREVOR PHILLIPS for the army, Lieut. ARUNDELL for the navy, and Captain HASTIE for the volunteers.

The Noble CHAIRMAN, in proposing "The health of Captain Burton," said—I rise to propose a toast which will not require that I should bespeak for it a favourable consideration on your part. I intend to give you the health of the gentleman in whose honour we have met to-night. (Loud cheers.) I propose the health of one—your cheers have said it before me—of the most distinguished explorers and geographers of the present day. (Cheers.) I do not know what you feel, but as far as my limited experience in that way extends, for a man to sit and listen to his own eulogy is by no means an unmixed pleasure, and in Captain Burton's presence I shall say a great deal less about what he has done than I should take the liberty of doing if he were not here. (Cheers.) But no one can dispute this, that into a life of less than forty-five years Captain Burton has crowded more of study, more of hardship, and more of successful enterprise and adventure than would have sufficed to fill up the existence of half a dozen ordinary men. (Cheers.) If, instead of continuing his active career—as we hope he will for many years to come—it were to end to-morrow, he would still have done enough to entitle him to a conspicuous and permanent place in the annals of geographical discoverers. (Cheers.) I need not remind you, except in the briefest way, of the long course of his adventures and their results. His first important work, the *History of the Races of Scinde*, will long continue to be useful to those whose studies lie in that direction, and those who, like myself, have travelled through that unhappy valley—through that young Egypt, which is about as like old Egypt as a British barrack is like an Egyptian pyramid—will recognise the fact that if there have been men who have described that country for utilitarian purposes more accurately and minutely, no man has de-

scribed it with a more graphic pen than Captain Burton. (Cheers.) With respect to his pilgrimage to Mecca, that, I believe, was part only of a much larger undertaking which local disturbances in the country prevented being carried out to the fullest extent. (Cheers.) I do not think I am exaggerating when I say that not more than two or three Englishmen would have been able to perform this feat. The only two parallels to it that I recollect in one generation are the exploring journeys of Sir Henry Pottinger into Beloochistan, and the journey of M. Vambéry through the deserts of Central Asia. (Cheers.) I am speaking only by hearsay and report, but I take the fact to be this, that the ways of Europeans and Asiatics are so totally different—I do not mean in those important acts to which we all pay a certain amount of attention while we do them, but in those little trifling details of every-day life that we do instinctively and without paying attention to them—the difference in these respects between the two races is so wide that the Englishman who would attempt to travel in the disguise of an Oriental ought to be almost Oriental in his habits if he hope to carry out that personation successfully. And if that be true of a journey of a few days, it is far more true of a journey extending over weeks and months, where you have to keep your secret, not merely from the casual observer, but from your own servants, your own friends, and your own travelling companions. To carry through an enterprise of that kind may well be a strain on the ingenuity of any man, and though, no doubt, danger does stimulate our faculties, still it does not take from the merit of a feat thus performed under circumstances in which, in the event of detection, death is almost certain. (Cheers.) I shall say nothing in this brief review of the well-known expedition to the Somauli country, which so nearly deprived the Anthropological Society of one of its ablest members. That journey really opened a wide district of country previously unknown to the attention of civilised man. It led the way indirectly to the Nile expeditions, which lasted from 1856 to 1859. With respect to the labours which were gone through in those expeditions, and the controversies which arose out of those labours, I do not require here to say anything except to make one passing remark. With regard to this controversial subject of the Nile, I may be permitted to say—though those who are experienced in geographical matters may treat me as a heretic—(a laugh)—I cannot help it if they do, for I speak by the light only of common sense—(renewed laughter, and cheers)—but it seems to me that there is a little delusion in this notion of searching for what we call the source of a river. Can you say of any river that it has a source? It has a mouth, that is certain—(cheers);—but it has a great many sources, and to my mind you might just as well talk of a hair on a man's head, or a root of a plant as being the source of the others. Every river is fed from many sources, and it does not seem to me that the mere accident of hitting upon that which subsequent investigation may prove to be the largest of many affluents to a river is a matter about which there need be much controversy. The clear tests of the value of this kind of work are, what is the quantity of land previously unknown which the

discoverer has gone through, and which he has opened up to the knowledge of civilised man? (Cheers.) Judged by that test, I do not hesitate to say that the African expedition of 1856 has been the most important of our time; the only rival which I could assign to it being that separate expedition which was undertaken by Dr. Livingstone through the southern part of the continent. (Hear.) Where one man has made his way many will follow, and I do not think it is too sanguine an anticipation, negro chiefs and African people notwithstanding, to expect that within the lifetime of the present generation we may know as much of Africa, at least, of Africa north of the equator and within fifty degrees south of it, as we know now of South America. Well, gentlemen, no man returns from a long African travel with health entirely unimpaired, and our friend was no exception to the rule. But there are men to whom all effort is unpleasant, so there are men to whom all rest, all doing nothing, is about the hardest work to which they could be put, and Captain Burton recruited his health, as you all know, by a journey to the Mormon country, travelling 30,000 miles by sea and land, and bringing back from that community—morally, I think, the most eccentric phenomenon of our days—a most curious and most interesting, and, as far as I could judge, the most accurate description we have yet received. (Cheers.) Now, as to the last phase of the career which I am attempting to sketch—the embassy to Dahome, the discovery of the Cameroon mountains, and the travels along the African coast, I shall only remind you of it, because I am quite sure that the published accounts must be fresh in all your minds. I do not know what other people may think of these volumes, but to me they were a kind of revelation of negro life and character, enabling me to feel, which certainly I never felt before, that I could understand an African and barbarian court. As to any theories arising out of these journeys, as to any speculations which may be deduced from them, I do not comment upon these here. This is not the place nor the occasion to do it. All I will say about them is, that when a man with infinite labour, with infinite research, and at the imminent risk of his life, has gone to work to collect a series of facts, I think the least the public can do is to allow him a fair hearing when he puts his own interpretation upon those facts. (Loud cheers.) I will add this, that in matters which we all feel to be intensely interesting, and upon which we all know that our knowledge is imperfect, any man does us a service who helps us to arrange the facts which we have at our command, who stimulates inquiry and thought by teaching us to doubt instead of dogmatising. I am quite aware that this is not in all places a popular theory. There are a great many people who, if you give them a new idea, receive it almost as if you had offered them personal violence. (Laughter.) It puts them out. They don't understand it—they are not used to it. I think that state of the public mind, which we must all acknowledge, is the very best defence for the existence of scientific societies such as that to which so many of us belong. It is something for a man who has got a word to say to know that there is a society where he will get a fair and considerate hearing; and,

whether the judgment goes against him or not, at least he will be met by argument and not by abuse. I think Captain Burton has done good service to the State in various ways. He has extended our knowledge of the globe on which we live, and if we happen to be men, and Europeans, gifted with curiosity, that is a result which, if it have not any immediate utilitarian result, we ought to value. (Cheers.) He has done his share in opening savage and barbarous countries to the enterprise of civilised man, though I am not quite so sanguine as many good men have been as to the reclaiming of savage races. One has only to read his and all other travellers' accounts of African life in its primitive condition, to see that whether they gain much or not by European intercourse, at any rate they have something to lose. (Laughter.) But there is something more than that in these days of peace and material prosperity, and both of them are exceedingly good things, where such a career as that of our friend is singularly useful. It does as much as a successful campaign to keep up in the minds of the English people that spirit of adventure and of enterprise, that looking to reputation rather than to money, to love of effort rather than to ease—the old native English feeling which has made this country what it has become, and which, we trust, will keep this country what it is to be—a feeling which, no doubt, the tendency of great wealth and material prosperity is to diminish; but a feeling which, if it were to disappear from among us, our wealth and our material prosperity would not be worth one year's purchase. (Cheers.) Gentlemen, I propose the health of Captain Burton, and my best wish for him is that he may do for himself what nobody else is likely to do for him, that by his future performance he may efface the memory of his earlier exploits. (Loud cheers.)

The toast was drunk with three times three.

Captain BURTON, who, on rising, was greeted with loud and protracted cheering, said—My Lord Stanley, my Lords and gentlemen, it falls to the lot of few men to experience a moment so full of gratified feeling as this, when I rise to return thanks for the honour you have done me on this, to me, most memorable occasion. I am proud to see my poor labours in the cause of discovery thus publicly recognised by the representative of England's future greatness. (Cheers.) The terms of praise which have fallen from your lordship's lips are far above my present deserts, yet I treasure them gratefully in my memory as coming from one so highly honoured, not only as a nobleman, but as a man. I am joyed when looking round me to see so many faces of friends who have met to give me godspeed—to see around me so many of England's first men, England's brains, in fact; men who have left their mark upon the age; men whose memories the world will not willingly let die. These are the proudest laurels a man can win, and I shall wear them in my heart of hearts that I may win more of them on my return.

But, however gratifying this theme, I must bear in mind the occasion which thus agreeably brings us together. We meet to commemorate the fact that in March 14, 1865, that uncommonly lusty youth, our young Anthropological Society, attained the

respectable dimensions of five hundred members. My lord and gentlemen, it is with no small pride that I recall to mind how, under the auspices of my distinguished and energetic friend Dr. James Hunt, our present president,—and long may he remain so,—I took the chair on the occasion of its nativity. The date was January 6, 1863. The number of those who met was eleven. Each had his own doubts and hopes, and fears touching the viability of the new-born. Still we knew that our cause was good; we persevered, we succeeded. (Cheers.)

The fact is, we all felt the weight of the great want. As a traveller and a writer of travels during the last fifteen years, I have found it impossible to publish those questions of social economy and those physiological observations, always interesting to our common humanity, and at times so valuable. The *Memoirs of the Anthropological Society* now acts the good Samaritan to facts which the publisher and the drawing-room table proudly pass by. Secondly, there was no arena for the public discussion of opinions now deemed paradoxical, and known to be unpopular. The rooms of the Anthropological Society now offer a refuge to destitute truth. There any man, monogenist or polygenist, eugenetic or dysgenetic, may state the truth as far as is in him. No. 4, St. Martin's Place, we may truly call the room

"Where, girt by friend or foe,
A man may say the thing he will."

All may always claim equally from us a ready hearing, and what as Englishmen we prize the most, a fair field and plenty of daylight. (Cheers.)

And how well we succeeded—how well our wants have been supplied by the officers of our society, we may judge by this fact:—During the last twenty days not less than thirty members have, I am informed by my friend Mr. Carter Blake, been added to the five hundred of last month. I confidently look forward to the day when, on returning from South America, I shall find a list of 1,500 names of our society. We may say *vires acquirit eundo*, which you will allow me to translate, "We gain strength by our go," in other words, our progress. This will give us weight to impress our profession and opinions upon the public. Already the learned of foreign nations have forgotten to pity us for inability to work off the grooves of tradition and habit. And we *must* succeed so long as we adhere to our principles of fair play and a hearing to every man. (Cheers.)

I would now request your hearing for a few words of personal explanation, before leaving you for some years. I might confide it to each man separately, but I prefer the greatest possible publicity. It has come to my ears that some have charged me with want of generosity in publishing a book which seems to reflect upon the memory of poor Captain Speke. Without entering into details concerning a long and melancholy misunderstanding, I would here briefly state that my object has ever been, especially on this occasion, to distinguish between personal enmities and scientific differences. I did not consider myself bound to bury my opinions in Speke's grave; to me, living, they are of importance. I adhere to all I have stated respecting the Nile sources; but I must

change the form of their expression. My own statement may, I believe, be considered to be moderate enough. In a hasty moment, I appended one more, which might have been omitted—as it shall from all future editions. I may conclude this painful controversial subject, by stating that Mr. Arthur Kinglake, of Weston-super-Mare, writes to me that a memorial bust of my lamented companion is to be placed this year in the shire-hall, Taunton, with other Somersetshire heroes, Blake and Locke. I have seen the bust in the studio of Mr. Papworth, and it is perfect. If you all approve, it would give me the greatest pleasure to propose a subscription for the purpose before we leave this room. (Cheers.)

And now I have already trespassed long enough upon your patience. I will not excuse myself, because I am so soon to leave you. Nor will I say adieu, because I shall follow in mind all your careers; yours, my Lord Stanley, to that pinnacle of greatness for which nature and fate have destined you; and yours, gentlemen and friends, each of you, to the high and noble missions to which you are called. Accompanied by your good wishes, I go forth on mine with fresh hope, and with a vigour derived from the wholesome stimulus which you have administered to me this evening. My Lord Stanley, my Lords and gentlemen, I thank you from my heart.

LORD HOUGHTON proposed "the Diplomatic and Consular Services", explaining the strict appropriateness of the toast by the circumstance of Captain Burton being consul at Santos, and by the fact that he (Lord Houghton) had obtained the appointment of two committees in the House of Commons, the recommendations of which had led to a deserved increase in the salaries of these most useful classes of public servants.

MR. MATHEWS, English minister to Central America, acknowledged the toast.

LORD STANLEY then proposed "Success to the Anthropological Society of London." The Society was very young, but it had been very prosperous; it had elected from 500 to 529 members within little more than two years, which was no inconsiderable success. He was not quite certain with whom it originated, for it might perhaps be said in this, as in other cases, that "he is a wise child who knows his own father." But, at all events, they knew that the present President was one of the originators, if he could not claim the sole paternity of the Society; and he would therefore add to the toast the name of Dr. James Hunt.

The toast was drank with loud cheers.

DR. HUNT, who was received with prolonged cheering, in returning thanks said:—My Lord Stanley, my Lords and gentlemen,—On such an occasion as this, I think I shall best return thanks on behalf of the Society over which I have the honour to preside, by saying very little about its past history, and not one word about what I have myself done. We are met to celebrate a double event: first, to pay homage to a distinguished anthropologist and traveller, before his departure for South America; and secondly, to celebrate what so many of us have looked forward to with very great interest and anxiety

—the augmentation of our numbers to our fifth hundred. There was not one dissentient voice in the Society as to the propriety of celebrating this latter event by paying a public tribute of respect to our honoured guest, who has been so intimately connected with the Society since its formation. The Society have voluntarily given up one of their ordinary meetings in order to give this dinner, and were thus anxious to show that they look upon this auspicious occasion as likely considerably to benefit the cause of anthropological science (cheers). Whilst, however, I shall not dwell on the work effected by the Society, I beg to take this opportunity to return the best thanks of the Anthropological Society of London to the distinguished statesman who has done us the honour to take the chair this evening (cheers). As Fellows of the Anthropological Society, we ought to be especially thankful to Lord Stanley; because I cannot but feel convinced that his presence here to-night will do much to show that the calumny which some of our enemies have heaped upon us, is wholly false and unmerited. It has been our fortune, or misfortune, to debate on subjects which, up to the time of our formation, no scientific body had dared to discuss. Such were, the physical and mental characters of the negro, and the influence of Christian missions amongst savages. We have consequently been told, first of all, that we were established for the advocacy of negro slavery; and now we are stigmatised as an "infidel confederacy". But, my lords and gentlemen, our object is something far higher and more noble than the mere propagation of infidel opinions; we have to discover what is true (cheers).

Dr. Hunt then mentioned the present excitement amongst the missionary societies, because some of the members of the Society had dared to discuss the benefit of missionary work on savage races, and that most of the missionary societies, with their myriads of supporters, were in arms against the Anthropological Society; but it would soon be seen that this Society only wanted to arrive at the truth. He considered that the present entertainment opened a new era in the history of the scientific societies of Great Britain, and that for the future such gatherings would not, as hitherto, be monopolised by one scientific society; for, however important geographical science may be, the importance of anthropological science was far greater (cheers). It only remained for travellers to follow the example of their guest, and write accounts of what they really did see, and not what they would wish to see, and anthropologists would not be unmindful of them. Captain Burton had dared to speak the truth at the risk of his own political and social position; and he hoped that others would follow his noble example.

In conclusion, Dr. Hunt said: "It would ill become me to say anything in praise of the public career of the statesman who had so kindly presided on this occasion. The name of Lord Stanley was enrolled as a very early Fellow of our Society; and we may perhaps have to thank him for inducing such men as the Earl of Clarendon, the Lord Bishop of St. David's, and our last elected member, Lord Houghton, to join us (hear, hear). There is one remark, however, which I will

venture to make respecting the noble lord, because I feel sure it will find a hearty response from every true scientific man. Of all the statesmen who have in modern times taken part in the public administration of the affairs of this country, I know not one whose past career is looked upon with so much approval, and of whose future with so much hope by all truly earnest scientific men, as that of our distinguished chairman." (Loud cheers.)

This toast was drunk with the greatest enthusiasm.

LORD STANLEY, in returning thanks for the compliment, said that when a man who had done so much more than he could pretend to have done, returned thanks when his health was drunk without saying one word about himself, he set an example which it was well should be followed. He was very glad to hear of the prosperity of the Anthropological Society, to which he had for some time had the pleasure to belong. He was not, indeed, a very active member, for he had not taken part in their discussions, nor had he contributed one paper; but he had been an indefatigable consumer of their publications; there was not one of them that he had not read. He was very glad that, in conducting their proceedings, they had no sectarian views. He himself had always kept clear of missionary meetings (cheers); and if a meeting were called with any sectarian view, he should forbear from attending. It seemed to be the peculiar characteristic of the time, to give utterance to theories of all kinds; but what they wanted was facts. They did not always get them, it is true; and when they got them, they did not always make the best use of them (laughter). It was a great deal to say in favour of anything, that there were some facts on which it could be based. The Society, in taking the free course it had pursued, could not fail to meet with some opposition; and it was wonderful to see the effect which a little opposition produced. He did not wish that they should not be opposed; but he wished that, as far as possible, they should only be opposed by fair means. At the same time, he hoped that, when asking for fair play for themselves, they would not forget to give fair play to others (cheers).

VISCOUNT MILTON said that, as a young traveller, among others who had accomplished so much more, he rose with considerable diffidence to propose "the health of travellers in foreign lands"; and he associated with the toast the name of Mr. R. B. N. Walker. He hoped there would never be any lack of young men willing and anxious to engage in such enterprises as those in which Captain Burton and other friends had led the way (cheers).

MR. R. B. N. WALKER said: My Lord Stanley, my Lords and Gentlemen,—Having done me the honour to couple my name with this toast, although doubtless there are many Fellows of the Society, as well as others more worthy of the name of travellers present, who are better qualified to reply, I thank you for the very kind manner in which it has been proposed and received. For myself, I can hardly yet lay claim to the title of traveller; but I purpose proceeding very shortly to Gaboon, to undertake an exploration of the interior of Equatorial Africa, in which attempt I hope to succeed, and

so win my spurs. For, notwithstanding that Lord Houghton has just told us that so much has lately been done by Captain Burton, the late Captain Speke, and others, towards laying open what has hitherto been an unknown continent, that, comparatively speaking, little is left for their successors to do, I hope that I shall find some spot that will prove both new and interesting; in fact, as the regions I propose to visit are, I may say, still virgin soil to the explorer, I trust to be enabled to accomplish something of importance to geographical science. My main object is to discover the Great Central Equatorial Lake, in which attempt I trust that I may succeed. I need hardly say that, so far as my abilities and opportunities will allow, I shall not omit to do my utmost to advance the objects of the Anthropological Society.

Mr. J. A. **HARDCASTLE**, M.P., proposed the next toast, "the Scientific Societies of London". He said he was about the worst fitted person that could be selected to propose such a toast, for he was not a member of any scientific society; but if what he had seen of the Anthropological Society could be taken as a specimen of others, there could be no doubt of the great use of these societies in general.

Mr. J. **FRED. COLLINGWOOD** returned thanks.

Mr. **ARTHUR RUSSELL**, M.P., proposed "Success to Scientific Societies abroad." We should especially wish success to the Paris and Madrid Anthropological Societies.

Dr. **SEEMANN**, in returning thanks, said that, on behalf of the various foreign academies and societies with which he was connected, he could conscientiously declare that they fully appreciated the honour done to them by the toast. Abroad, the movements and publications of the Anthropological Society were watched with eager interest; and he had only that day read an able article, in which that distinguished and venerable anthropologist Dr. Carus of Dresden, the President of the Imperial German Academia Naturæ Curiosorum, pointed out how much the Society had done, and what excellent opportunities it enjoyed, in a place like London, to solve some of the most important questions of our science. The Society had been solicited to keep up a regular exchange of its publications with the leading societies abroad; and had become the model for the establishment of anthropological societies at Madrid, St. Petersburg, and other places.

Captain **BURTON**, in proposing "Success to Anthropological Science in the British Association", expressed a hope that the Society's application for a special section would be carried, as it deserved to be.

Mr. **REDDIE** responded to the toast. He said that he most heartily echoed the wish of their distinguished guest, that before long the science of anthropology would have a distinct recognition on the part of the British Association, which we all regretted was not the case at present (murmurs). "My Lord", he proceeded to say, "I am not surprised at this expression of dissatisfaction that such a state of things should be possible in the present day; but this is not a fit occasion for going into disagreeables, even if the lateness of the hour did not also warn me that it is not a time for long speeches. Let us, however, make allowance for those through whose influence anthropology

has been nominally absent, though virtually present, at our great scientific congresses. Of course we are perfectly aware that there is room for great differences of opinion as to what is scientific advancement. Some think (as the late Professor Waitz well observed) that science is advanced when theory is added to theory, however contradictory, if they only all pass through the regular grooves. Others, including not a few anthropologists, think the truest advancement may be made by pulling ill-considered theories to pieces, without caring for their traditional respectability, or whether they are popular from their antiquity, or perhaps merely from their novelty. Even during this present fortnight, the Anthropological Society of London has been attacked by a small portion of the press, as if we were answerable for certain theories we have done not a little to discredit by the perfectly free discussion we allow. In short, my lord, there is no doubt that we are all for the true advancement of science in this Society, and therefore we are preeminently entitled to take our proper place in the British Association (cheers). One thing, more suitable to our present meeting, I should like to say before I sit down, as it relates to what came under my personal observation as a member of the Committee of Section E at Bath. Captain Burton has alluded to the criticism he has been subjected to, on account of some of the remarks he made in his *Nile Basin*, as to the views of the late Capt. Speke. My lord, I think it has not been publicly noticed, or not sufficiently so, that these remarks were written by our gallant guest for the purpose of being read in Captain Speke's presence at Bath; and I well remember the resolute air with which Captain Burton entered the committee room of Section E, with, as it were, his literary sword unsheathed in his hand, awaiting the entrance of his gallant 'rival in renown'. But a fatal accident, we all know, had already forbidden the expected discussion: only the melancholy tidings of Captain Speke's death reached the committee room; and, with the feelings of an officer and a gentleman, Captain Burton refrained altogether from reading his paper. But I venture to think that the cause of scientific truth would be best served, by the paper being published as it would have been read had Captain Speke lived, with a mere note of explanation recounting the unfortunate circumstances which induced its withdrawal. At any rate, it is highly undesirable that the least misunderstanding should be allowed to prevail as to the real facts of the case, and the conduct of Captain Burton." (Loud cheers.)

Lord STANLEY said they had had a very pleasant evening (cheers), but everything must come to an end; and the last toast which he had to propose was—"the Ladies".

Mr. SWINBURNE proposed "the Press," and in a vein of irony, which excited much laughter, protested against having been compelled to propose success to what he most despised and abominated. The "press" unfortunately had a great deal of power, and used it to do us all the injury they possibly could.

Mr. LOCKYER, having had his name associated with the toast, said he felt it a great honour to be called upon to return thanks on behalf of the fourth estate. The press, he said, was always ready to acknow-

ledge the merit of such a man as Captain Burton. It could distinguish between those who were genuine travellers and those who were not so. Some travellers there were who might as well have stayed at home for any information they communicated; but there were others who truly told all that they had observed, and who, like Captain Burton, would boldly express their opinions.

Mr. SAMUEL LUCAS said he belonged to that degraded and despised press which had been so strangely assailed by the gentleman who had proposed the toast; and he stood up for the "blackguard press," which he proceeded to defend at length from the ironical accusations of Mr. Swinburne.

Mr. CHARLESWORTH said they had drunk success to the Anthropological Society, and to the other scientific societies of London, but there was one toast yet remaining connected with the object it was their desire to promote; he therefore begged to propose "Success to the *Anthropological Review*." He need not, he said, remind his Lordship that a society without an organ was like the play of *Hamlet* with the principal character omitted. He attributed a great deal of the success which had attended the society to that most valuable publication the *Anthropological Review*. Without detaining them to speak of its great merits, he would connect with the toast the names of Mr. Trübner and Mr. Carter Blake. Of the latter he would say that the greater part of his energies were exerted in the investigation and distribution of scientific truth; and the great services which Mr. Blake had done to the society as editor of the *Journal of the Anthropological Society*, which was appended to the *Anthropological Review*, and in other important capacities, were well known to all present.

Mr. TRÜBNER: My Lords and Gentlemen,—I thank you sincerely for the honour which you have conferred on me in drinking my health, coupling it with your toast to the prosperity of the *Anthropological Review*. I can assure you that it is most gratifying to me to be the publisher of a periodical, the establishment of which marks an epoch in the development of the science to which it is devoted; but I must remind you that, after all, the part which I have to perform in connection with it is but a humble one, and that your thanks are due, not to me, but to our excellent President, Dr. Hunt, its projector. You will be glad to hear that the *Review* continues to gain ground, and that, in addition to the many subscribers whom we count in this country, we constantly add to the number of our foreign ones. And it is a pleasing fact for me to record, that our near neighbours the Dutch have manifested, from the very first, a lively interest in our *Review*, and that, in proportion to the size of Holland, we count more readers there than in any other part of continental Europe. The sale in Germany is satisfactory, and steadily on the increase. The same cannot however be said of France and Belgium. We have subscribers in Southern Europe, but not as many as the importance of the publication would seem to warrant; this may partly be owing to the somewhat defective organisation of the book trade in those parts of the world. The Indian and colonial sales are not very extensive as yet, but Australia has latterly begun to be a good customer.

I regret to inform you that America has as yet given us but little support; but this is explained by the circumstance that, when the *Review* was started, that country was already in the midst of its disastrous war, and American purchasers could hardly be expected at a time when exchange had nearly trebled the original cost price. But there is every prospect of a wide circulation for our *Review* in that country when the conflict shall have come to an end. In the interim, devoted students are at work in various parts of the great American continent who bid fair to enrich considerably our knowledge of all the departments of science which fall under the cognisance of our society. That indefatigable labourer and intrepid traveller, the Abbé Brasseur de Bourbourg, has sailed not long since—for the fifth time, I believe—for Mexico, on this occasion as a member of the Mexican Scientific Commission, sent out by the Emperor of the French. His many valuable labours in connection with the antiquities and languages of Central America are no doubt familiar to you. Don Francisco Pimentel, a Mexican gentleman, has recently published the first volume of a work *On the Indigenous Nations of Mexico and Central America*, this volume containing an analysis of the twelve idioms spoken from Arizona to Yucatan. An American *savant*, Mr. Alexander S. Taylor, resident at Santa Barbara in California, is engaged on an extensive work *On the Ethnography of California*—portions of it have appeared in the *Voz de Mejico*, a journal published at San Francisco. At New York, Messrs. Shea and Gibbes are engaged on the publication of a series of grammars and dictionaries of American Indian languages, thirteen volumes of which have already been carried through the press. In New Granada, two gentlemen devote themselves with a rare zeal to anthropological studies, the fruits of which are two important works—the one by Colonel Acosta, *On the History of New Granada*, with notices on the indigenous tribes and languages of that country; the other by Dr. Uricoechea, entitled *Monumentum Chibchacum*, containing, among other matter, a treatise on, and a dictionary of, the ancient Muisca or Chibcha language, now nearly extinct. Mr. Squier, well known in connection with American antiquities, has recently returned to New York, after having spent fourteen months in the scientific exploration of the land of the Incas: the account of his discoveries is looked forward to with interest. In Chile, one of the best governed of South American republics, the authorities have, since the pacification in 1837, encouraged a spirit of inquiry into the ancient history, antiquities, languages, etc., of the country; and one of the fruits has been the publication of full indices to the national archives by Claudio Gay, a Chilean ecclesiastic. Father Astraldi has compiled useful grammars and dictionaries of the Araucanian language. Mr. Vicuña Mackenna, of Santiago, is likewise engaged on the work on *Chilian Antiquities*. Names of other equally devoted students might be added to this list, but I have already trespassed on your indulgence, and must bring my remarks to a close. Only permit me, before doing so, briefly to allude to the fortuitous circumstance that our friend Captain Burton, in whose honour we are here assembled, has been appointed to such a rich field for anthropological inquiry as

Brazil—a field where his wide and varied powers will have the fullest play; a field, moreover, where he will have the fine chance of continuing the labours of his eminent predecessors the German Martius and the Frenchman d'Orbigny. And I venture to express a hope—a hope I am sure shared by all present—that, in the midst of his labours, his pleasures, his enjoyments, and his triumphs, he will reserve a place in his thoughts for us, and in his own inimitable way adorn the pages of our *Review*, and please its readers by frequent communications—thus adding something more to the many obligations which the world of science owes to his labours.

MR. CARTER BLAKE said: I rise with great pleasure to thank you for the very cordial manner in which you have drank the health of so old a servant of the Society as myself. I can say distinctly, that no official duty with which I may have been charged in editing the Society's Journal has been so pleasurable as that which I have enjoyed when being the first to read through the papers of my distinguished friend Captain Burton. He is one of those few men who are manly enough to say the thing they really think, in the language which alone adequately conveys their ideas. We have one traveller, at least, who is not ashamed to describe the state of savage nations in Saxon English, and to apply homely words to those peculiarities which he may observe. As the great destroyer of the scientific mock-modesty of this age, we can say to him, in the words of Alford—

“Speak thou the truth. Let others fence,
And trim their words for pay;
In pleasant sunshine of pretence,
Let others bask their day.”

Joining with you all, my lords and gentlemen, most cordially in wishing success to Captain Burton, I thank you sincerely for the kind reception you have accorded so humble a follower in his footsteps as myself. (Cheers.)

DR. HUNT said he had a host of letters, some of them from noblemen and gentlemen of the highest distinction, containing apologies for not being able to attend the dinner to do honour to Capt. Burton. Many of these letters were most complimentary to their distinguished guest. He would not trespass on the patience of the company by reading those and other letters that had been received, but he would occupy their time very shortly in proposing a toast. He had unfortunately for himself held a position in the Anthropological Society which he had no pretension to occupy; and he was always anxious to acknowledge that the success of the Society was not due to any efforts of his, but to the Council and the officers, and to the harmony with which they had all worked together to promote its interests. He therefore called on them to drink the health of the officers of the Anthropological Society. Among them he begged to name Mr. Bollaert, but as that gentleman was not able to attend, he would associate with the toast the names of Mr. Roberts, one of the Honorary Secretaries, and of Dr. Charnock, the Treasurer. (Cheers.)

MR. ROBERTS, in acknowledging the toast, adverted to the success that had attended the formation of the Society. An Anthropological Society he had felt to be the want of the age which seemed to call for

it, and he was glad to say that when the President asked him to join, he at once consented; the Society, he was glad to say, continued to prosper in every respect.

Dr. CHARNOCK also briefly returned thanks.

Dr. HUNT said that Lord Milton had asked to be permitted to propose a toast, and he had no doubt it was an important one, to which he solicited their attention.

Lord MILTON, after a few preliminary complimentary remarks, proposed the health of the President of the Anthropological Society.

Dr. HUNT said he had been deceived once or twice in the course of his life, but never had he been so thoroughly as on the present occasion. The noble lord had informed him that he wished to propose a toast, and he concluded of course that it would be an important one, as he had announced, but never had he felt so completely the dupe of circumstances over which he had no control as when he found that his own health was proposed. It was the duty of the President not to talk, but to work. He could conscientiously say, that every day added to the pleasure he felt when he made acquaintance with the members of the Anthropological Society, and with those who were continually joining them. He had not anticipated that their number could have been so greatly extended so soon, nor that there were so many persons who had the courage to discuss social, moral, and religious questions with so much freedom as experience had proved to be the case. Many of those who had joined the Society had declared to him that the information they had acquired had opened quite a new life to them. The principle which regulated their proceedings was simply that every question brought forward should be demonstrated; they accepted nothing that could not be proved. If any opinions were adduced they were analysed and tested by facts and by logic, and if found to be founded in truth they were accepted, but not otherwise. He should be very sorry if they were to separate on that occasion, when they had met to bid farewell to Capt. Burton, without drinking the health of one on whom they all looked with respect and admiration—Mrs. Burton. (Loud cheers.) He felt it, therefore, to be their duty to join most heartily in drinking long health and prosperity to Mrs. Burton, and may she be long spared to take care of her husband when far away in South America. Those who paid homage to her paid homage also to him, whom they had met to honour, and the more they knew of him the more they respected him. (Loud cheers.)

Captain BURTON. I only hope in the name of heaven that Mrs. Burton won't hear of this. (Laughter.)

Dr. HUNT said that as Capt. Burton refused to respond to the toast in a proper manner, he must return thanks for Mrs. Burton. She begged him to say that she had great difficulty in keeping her husband in order, but that she would do what she could to take care of him, and to make him as innocent a man as they believed him to be. (Loud laughter.)

Lord Stanley then left, and the company soon afterwards separated.

Correspondence.

On the Hereditary Transmission through Four Generations of an Abnormity.—Since the publication of Darwin's masterly work *On the Origin of Species*, the hereditary transmission of abnormal peculiarities has attracted a good deal of public attention. As a small contribution to our knowledge of these remarkable cases, I beg to enclose a photograph of an abnormity which has now run through four generations. The subject photographed is the second of the family so afflicted, and from what I can learn the following are the facts:—The grandmother of the old lady now portrayed was, during her pregnancy, walking through a farm-yard, when she was attacked by a savage dog and severely lacerated about the hands. On her confinement her child, a boy, presented the following peculiarities: the fingers of both hands were webbed to their extremities; on the outside of the fourth finger of each hand a supplemental one appeared from a little below the ungual phalanx. The thumb of the *right* hand consisted of two distinct metacarpal bones and two first phalanges; the ungual extremity contained three phalanges, the outer and inner ones being terminated by nails. The *left* thumb consisted of one metacarpal bone proper, but there was a separate metacarpus extending from the carpo-metacarpal articulation and passing the metacarpophalangeal joint. The ungual extremity contained two phalanges bent at an angle. The child possessing these peculiar hands, on arriving at man's estate, married, and the old lady whose portrait I send was the result of such union. This old lady also married, and has had five children, one son and four daughters; the son and youngest daughter possessed the above peculiarities. The son married, and has had six children, *five* of whom are afflicted in exactly the same manner. The daughter has had two children, both boys, the eldest of which possessed the same abnormal structure of the hands. Thus this strange malformation has, up to the present time, run through *four* generations (three of which I have seen), and possibly may run through many more. To my friend Henry Barber, M.D., I am indebted for the anatomical details, he having made a careful examination of the case.—J. P. MORRIS, F.A.S.L.

Burnt Human (?) Bones.—I beg to call attention to a singular mode of interment, which is thus described in a letter addressed to Professor Owen, which he has kindly placed at my disposal:—"1, Holly Terrace, Sunderland, April 10th, 1865,—Sir,—Hearing that the labourers at Gally's Gill, where I found the humerus of the *Bos primigenius*, had come upon somewhat remarkable remains of antiquity, I went thither this afternoon and found a basin-like excavation formed in the limestone rock, nine feet in diameter, and about the same in depth from the grass surface. The side of the basin has evidently been acted on by fire, as you will see from the specimen (A) which I enclose. The body of the basin is filled with substance, of which I enclose specimen (B). A little beyond the western edge of this excavation, and among the clay thrown out from the drift in which the

relic of the *Bos* was found, I picked up the enclosure (C). If you have leisure, I shall be glad to be informed of what creature it has formed a portion. I am, sir, your obliged and obedient servant, GEO. HARDCASTLE. To Professor Owen." The specimen (A) as the writer states, certainly shows the action of fire. The substance (B), which fills the interior of the basin, is chiefly composed of calcined phosphate of lime, the *débris* of (human?) bones which have been burnt in the cavity. The third specimen (C) is the humerus of a fox, and is apparently very recent. I hope that some of your readers will inform us what, if any, other instances of this peculiar mode of sepulture exist.—C. CARTER BLAKE, F.G.S., F.A.S.L.

Anthropological News.

The formation of the Madrid and St. Petersburg Anthropological Society is now to be followed by the formation of an anthropological society in New York. This society, we learn, will be founded on the plan of the Paris and London societies.

The Anthropological Society have sent in an address to the President and Council of the British Association for the Advancement of Science, asking for the appointment of a special section for Anthropology. Should this request be supported by the council, it will doubtless be carried; and in any case the question will be discussed by the general committee. Should the section not be appointed, it is intended to hold an Anthropological Congress. We understand that arrangements have already commenced, and that papers are being collected by the Anthropological Society for reading either before the section or at the congress, and that if the council of the Association decline to recommend the appointment of a special section the arrangements will be completed for an anthropological congress.

Mr. E. G. Squier has just returned to New York from a two years' exploration of the ancient monuments of South America, and has been collecting materials for a work on the Incas of Peru. We hear that he has brought with him two hundred crania of the people, collected with his own hands.

Dr. Louis Büchner, who translated Sir Charles Lyell's *Antiquity of Man* into German, has recently been delivering some lectures at Darmstadt, on the antiquity of man, which were attended by Prince Louis of Hesse.

Dr. J. Aitken Meigs, of Philadelphia, is engaged on a *Memoir on the Comparative Anthropology of the Polar Races*. He is anxious to obtain the measurements of the skulls of the following peoples:—Samoiedes, Yeniseiens, Yukagiri, Yakuts, Tungus, Koriaks, Kamtchatkans, Tchuktchi, Kurilians, Aleoutians, Kenaiens, Kolushes, etc. We shall be happy to forward any information, and feel sure that Dr. Meigs will gladly give all credit to those who take the trouble to send the information sought for.

Karl Gutzkow, who was one of the most severe critics of Dr. Louis Büchner's *Kraft und Stoff*, is now confined in a lunatic asylum.